DOCUMENT RESUME

ED 457 241 TM 033 368

AUTHOR	Gerald, Debra E.; Hussar, William J.
TITLE	Projections of Education Statistics to 2011. Thirtieth Edition.
INSTITUTION	National Center for Education Statistics (ED), Washington, DC.
REPORT NO	NCES-2001-083
ISBN	ISBN-0-16-050910-6
PUB DATE	2001-09-00
NOTE	168p.; For projections to 2010, see ED 447 146.
AVAILABLE FROM	ED Pubs, P.O. Box 1398, Jessup, MD 20794-1398. Tel: 877-433-7827 (Toll Free).
PUB TYPE	Numerical/Quantitative Data (110) -- Reports - Descriptive (141)
EDRS PRICE	MF01/PC07 Plus Postage.
DESCRIPTORS	Census Figures; College Graduates; *Educational Trends; Elementary Secondary Education; *Enrollment Projections; Futures (of Society); High School Graduates; Higher Education; Private Schools; Public Schools; School Demography; *School Statistics; Tables (Data)
IDENTIFIERS	National Center for Education Statistics

ABSTRACT

This report, 30th in a series begun in 1964, provides revisions to projections shown in "Projections of Education Statistics to 2010." It includes statistics on elementary and secondary schools and degree-granting institutions. Included are projections for enrollment, graduates, teachers, and expenditures to the year 2011. The report also included projections of public elementary and secondary enrollment and high school graduates to the year 2011 at the high school level. The projections in this report reflect revisions influenced by the 1990 Census, but exclude the net undercount of 4 to 5 million. Most of the projections include three alternatives, based on different assumptions about demographic and economic growth paths. The middle alternative, the first set of projections, is considered to represent the most likely scenario. Total public and private elementary and secondary enrollment is projected to increase from 52.9 million in 1999 to 53.4 million in 2005. Total enrollment is then projected to decrease to 53.0 million by 2011, resulting in a less than 1% increase from 1999 to 2011. Enrollment in degree-granting institutions is projected to increase by 20% over the period. Five appendixes contain a discussion of projection methodology, supplementary tables, data sources, a glossary, and a discussion of methodology for the Integrated Postsecondary Education Data System. (Contains 59 figures and 61 tables.) (SLD)

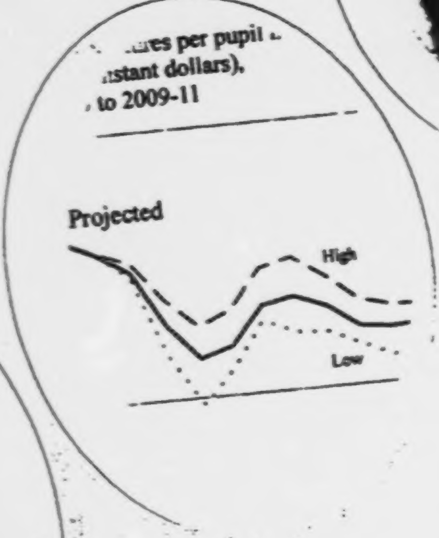
Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 457 241

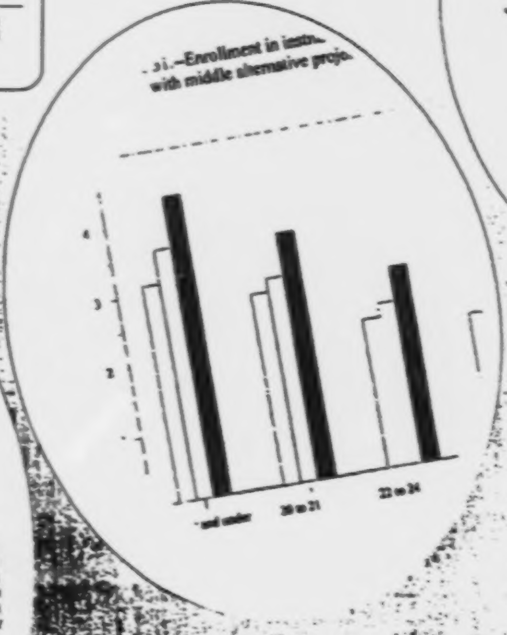
TM

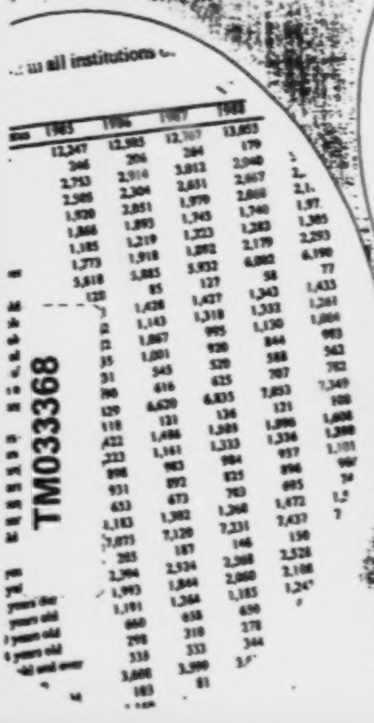
NATIONAL CENTER FOR EDUCATION STATISTICS

Projections of Education Statistics to 2011



U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.




... in all institutions ...
1985
1986
1987
1988

TM033368

BEST COPY AVAILABLE

Thirtieth Edition

U.S. Department of Education
Office of Educational Research and Improvement

NCES 2001–083

Customer Survey of OERI Publication Users

To help us improve future editions of this publication and give you better customer service, we would appreciate your comments on this survey form. Please check the appropriate box(es) below for each question. Responses will be kept completely confidential. You may return the survey by mail or FAX. It can be folded and taped closed to allow mailing to the address listed on the reverse side of this form, or it can be returned by FAX to 202–219–1321. **Many thanks for your customer feedback—it is very important to us!**

1a. Name of publication Projections of Education...

1b. Publication number NCES 2001-083

1c. Author name Debra Gerald

2. How did you receive a copy of this publication?

☐ Bought it
☐ Borrowed it
☐ Mailing list membership
☐ Telephone request
☐ Internet request
☐ Other (please describe)

3. Was this publication easy to get?

☐ Very ☐ Somewhat ☐ Not at all

4. How did you find out about this and other OERI publications? (Check all that apply.)

☐ Conferences
☐ Journal articles
☐ Teacher/educator
☐ Professional associations
☐ Internet (WWW)
☐ Publication announcement
☐ Received in mail
☐ OERI staff contact

5. For what purposes did you use this OERI publication? (Check all that apply.)

☐ Planning
☐ Policy or legislation
☐ Administrative decisions
☐ Teaching, class material
☐ Research/analysis
☐ General information
☐ Writing news articles, TV or radio material
☐ Marketing, sales, or promotion
☐ Other (please describe)

6. Did the publication help you accomplish whatever you needed it for?

☐ Yes ☐ No ☐ Partially

7. What is your occupation?

☐ Parent ☐ Teacher ☐ Administrator
☐ Librarian ☐ Researcher ☐ Statistician
☐ Journalist/writer ☐ Policy Analyst ☐ Student
☐ Program Planner
☐ Other (please specify)

8. How could this OERI publication (or other OERI publications) better meet your needs? (Check all that apply.)

☐ More important topics in education
☐ More timely release of data
☐ More text introductions to each section
☐ More research statistics
☐ Shorter reports (less than 10 pages)
☐ Other (please describe)

9. Overall, how satisfied are you with this product?	**Very Satisfied**	**Satisfied**	**Dissatisfied**
	☐	☐	☐
a. Comprehensiveness of information	☐	☐	☐
b. Clarity of writing (readability, interpretability)	☐	☐	☐
c. Clarity of presentation (e.g., tables, charts)	☐	☐	☐
d. Timeliness of information	☐	☐	☐
e. Accuracy of information	☐	☐	☐
f. Clarity of technical notes	☐	☐	☐
g. Usefulness of resources and bibliography	☐	☐	☐
h. Organization	☐	☐	☐
i. Length	☐	☐	☐
j. Format	☐	☐	☐

PAPERWORK BURDEN STATEMENT
Office of Education Research and Improvement (OERI)
Publication Customer Survey

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 1880-0529. The time required to complete this information collection is estimated to average 10 minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate(s), suggestions for improving this form, or concerns regarding the status of your individual submission of this form, write directly to: **P. Quinn, Room 204, Media and Information Services, OERI, U.S. Department of Education, 555 New Jersey Avenue NW, Washington, DC 20208-5570.**

OERI Publication Customer Survey
Media and Information Services
U.S. Department of Education
Washington, DC 20202

Official Business
Penalty for Private Use, $300

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO. 012935 WASHINGTON DC

POSTAGE WILL BE PAID BY U.S. DEPARTMENT OF EDUCATION

U.S. Department of Education
Mail Code: 5570
400 Maryland Avenue, S.W.
Washington, D.C. 20277—2935

Fold on line—TAPE CLOSED—DO NOT STAPLE

10. Do you have any suggestions regarding the content or format of future editions of this publication or other comments?

NATIONAL CENTER FOR EDUCATION STATISTICS

Projections of Education Statistics to 2011

Debra E. Gerald
William J. Hussar

National Center for Education Statistics

U.S. Department of Education
Office of Educational Research and Improvement **NCES 2001–083**

U.S. Department of Education
Rod Paige
Secretary

Office of Educational Research and Improvement
Grover J. Whitehurst
Assistant Secretary

National Center for Education Statistics
Gary W. Phillips
Acting Commissioner

The National Center for Education Statistics (NCES) is the primary federal entity for collecting, analyzing, and reporting data related to education in the United States and other nations. It fulfills a congressional mandate to collect, collate, analyze, and report full and complete statistics on the condition of education in the United States; conduct and publish reports and specialized analyses of the meaning and significance of such statistics; assist state and local education agencies in improving their statistical systems; and review and report on education activities in foreign countries.

NCES activities are designed to address high priority education data needs; provide consistent, reliable, complete, and accurate indicators of education status and trends; and report timely, useful, and high quality data to the U.S. Department of Education, the Congress, the states, other education policymakers, practitioners, data users, and the general public.

We strive to make our products available in a variety of formats and in language that is appropriate to a variety of audiences. You, as our customer, are the best judge of our success in communicating information effectively. If you have any comments or suggestions about this or any other NCES product or report, we would like to hear from you. Please direct your comments to:

National Center for Education Statistics
Office of Educational Research and Improvement
U.S. Department of Education
1990 K Street, NW
Washington, DC 20006–5561

September 2001

The NCES World Wide Web Home Page is: ***http://nces.ed.gov***
The NCES World Wide Web Electronic Catalog is: ***http://nces.ed.gov/pubsearch/index.asp***

Suggested Citation

U.S. Department of Education, National Center for Education Statistics. *Projections of Education Statistics to 2011*, NCES 2001–083, by Debra E. Gerald and William J. Hussar. Washington, DC: 2001.

For ordering information on this report, write:

U.S. Department of Education
ED Pubs
P.O. Box 1398
Jessup, MD 20794–1398

or call toll free 1–877–4ED–Pubs.

Content Contact:
Debra E. Gerald (202) 502–7341
William J. Hussar (202) 502–7359

Foreword

Projections of Education Statistics to 2011 is the 30th report in a series begun in 1964. This report provides revisions of projections shown in *Projections of Education Statistics to 2010* and includes statistics on elementary and secondary schools and degree-granting institutions. Included are projections for enrollment, graduates, teachers, and expenditures to the year 2011.

In addition, this report includes projections of public elementary and secondary enrollment and high school graduates to the year 2011 at the state level. These projections were produced to provide researchers, policy analysts, and others with state-level projections developed using a consistent methodology. They are not intended to supplant detailed projections prepared in individual states.

The projections presented in this report reflect revisions influenced by the 1990 census, but exclude the net undercount of 4 to 5 million. The revised population projections developed by the Census Bureau also reflect the incorporation of the 1999 estimates as well as the latest assumptions for the fertility rate, net immigration, and the mortality rate. The population projections are not based on the 2000 census data. Projections of national population data are not scheduled for release until 2002.

This report contains a methodology section describing models and assumptions used to develop the national and state projections. The projections are based on a cohort survival model, an age-specific enrollment rate model, exponential smoothing models, and econometric models. The cohort survival and enrollment rate models use enrollment data and population estimates and projections from the National Center for Education Statistics and Census Bureau. The exponential smoothing models are based on the mathematical projection of past data patterns into the future. The econometric models use projections of exogenous variables from the company, DRI•WEFA, Inc., an economic forecasting service. Therefore, assumptions regarding the population and the economy are the key factors underlying the projections of education statistics.

Most of the projections of education statistics include three alternatives, based on different assumptions about demographic and economic growth paths. Although the first alternative set of projections (middle alternative) in each table is deemed to represent the most likely projections, the low and high alternatives provide a reasonable range of outcomes.

In the forecast summary, highlights for key education statistics are presented. A summary of the projections is available in a pocket-sized folder, *Pocket Projections 2011*.

Valena W. Plisko, Associate Commissioner
Early Childhood, International, and Crosscutting Studies Division
August 2001

Acknowledgments

Projections of Education Statistics to 2011 was produced by the National Center for Education Statistics in the Early Childhood, International, and Crosscutting Studies Division under the general direction of Thomas D. Snyder, Director of the Annual Reports Program. The report was prepared by Debra E. Gerald, Mathematical Statistician, and William J. Hussar, Financial Economist.

Debra E. Gerald prepared projections of the following: elementary and secondary enrollment (chapter 1); enrollment in degree-granting institutions (chapter 2); high school graduates (chapter 3); earned degrees conferred (chapter 4); and elementary and secondary teachers (chapter 5). In addition, she prepared the appendixes explaining the methodologies used to develop these projections and the data sources. William J. Hussar prepared the projections of expenditures of public elementary and secondary schools, including public school teacher salaries (chapter 6). In addition, he prepared the appendix explaining the methodologies used to obtain the expenditure projections, selected portions of the data sources, and glossary.

The technical review was done by Shelley K. Burns of the National Center for Education Statistics and David Miller of the Education Statistics Services Institute (ESSI). Thea Kruger, Mary McLaughlin, and Molly Soule of ESSI assisted in the technical review of this report. The adjudication was done by Karen O'Conor, Adjudicator for the National Center for Education Statistics. Valuable assistance was also provided by the following reviewers: Lynda Del Castillo of Sallie Mae; Arlene Dohm of the Bureau of Labor Statistics; Vance Grant of the National Library of Education, Office of Educational Research and Improvement; and Stephen Broughman, William Fowler, Frank Morgan, and John Sietsema of the National Center for Education Statistics.

The cover was designed by Heather Block of the Education Statistics Services Institute (ESSI).

Forecast Summary

Highlights

Public and private elementary and secondary enrollment—less than 1 percent increase from 1999 to 2011.

Total public and private elementary and secondary enrollment is projected to increase from 52.9 million in 1999 to 53.4 million in 2005. Then total enrollment is projected to decrease to 53.0 million by 2011, an overall increase of less than 1 percent from 1999 (table 1).

Between 1999 and 2011, public elementary and secondary enrollment is projected to increase 8 percent in the West, while in the South it will increase 1 percent. In the Northeast and Midwest, enrollment is projected to decrease 4 and 3 percent, respectively, over the same period (table 5).

Enrollment in degree-granting institutions—20 percent increase.

Enrollment in degree-granting institutions is projected to increase from 14.8 million in 1999 to 17.7 million by 2011, an increase of 20 percent. A 16 percent increase is projected under the low alternative and a 23 percent increase is projected under the high alternative (table 10).

High school graduates—11 percent increase.

High school graduates from public and private high schools are projected to increase from 2.8 million in 1998–99 to 3.1 million by 2010–11, an increase of 11 percent. This increase reflects the projected rise in the 18-year-old population (table 23).

Between 1998–99 and 2010–11, the number of public high school graduates is projected to increase 20 percent in the West, while the South will increase 12 percent. The Northeast and the Midwest are projected to increase 11 and 2 percent, respectively, over the same period (table 25).

Bachelor's degrees—18 percent increase.

The number of bachelor's degrees is expected to increase from 1,184,000 in 1997–98 to 1,392,000 by 2010–11, an increase of 18 percent (table 27).

Elementary and secondary teachers—10 percent increase.

Under the middle alternative, the number of elementary and secondary teachers is expected to increase from 3.30 million in 1999 to 3.65 million by the year 2011, an increase of 10 percent. A 9 percent increase is projected under the low alternative and an 11 percent increase is projected under the high alternative (table 31).

Current expenditures for public elementary and secondary schools—34 percent increase in constant dollars.

Under the middle alternative, a 34 percent increase in current expenditures for public elementary and secondary schools is projected for the period from 1998–99 to 2010–11. Under the low alternative, current expenditures are projected to increase by 29 percent; under the high alternative, current expenditures are projected to increase by 40 percent (table 33).

Current expenditures per pupil—33 percent increase in constant dollars.

Under the middle alternative, current expenditures per pupil in fall enrollment are forecast to increase 33 percent in constant dollars from 1998–99 to 2010–11 (table 33).

Contents

Page

Foreword iii

Acknowledgments v

Forecast Summary vii

Highlights ix

Introduction 1

Projections

Chapter 1. Elementary and Secondary Enrollment, by Debra E. Gerald 3

Chapter 2. Enrollment in Degree-Granting Institutions, by Debra E. Gerald 25

Chapter 3. High School Graduates, by Debra E. Gerald 53

Chapter 4. Earned Degrees Conferred, by Debra E. Gerald 63

Chapter 5. Elementary and Secondary Teachers, by Debra E. Gerald 73

Chapter 6. Expenditures of Public Elementary and Secondary Schools, by William J. Hussar 81

Technical Appendixes

A. Projection Methodology, by Debra E. Gerald 93

A1. Enrollment, by Debra E. Gerald 99
  National 99
  State-Level 102

A2. High School Graduates, by Debra E. Gerald 111
  National 111
  State-Level 111

A3. Earned Degrees Conferred, by Debra E. Gerald 113

A4. Elementary and Secondary Teachers, by Debra E. Gerald 117

A5. Expenditures of Public Elementary and Secondary Schools, by William J. Hussar 121

B. Supplementary Tables 129

C. Data Sources 139

D. Glossary 147

Data Terms ... 147
Statistical Terms ... 152

E. 1999 IPEDS (Fall Enrollment) Survey Methodology ... 155

Figures

Births

1. Annual number of births, with projections: 1951 to 2011 ... 6

School-Age Population

2. Three- to five-year-old population, with projections: 1986 to 2011 ... 6

3. School-age populations, with projections: 1986 to 2011 ... 7

Elementary and Secondary Schools

4. Enrollment in elementary and secondary schools, by grade level, with projections: Fall 1986 to fall 2011 ... 7

5. Enrollment in elementary and secondary schools, by control of institution, with projections: Fall 1986 to fall 2011 ... 8

6. Enrollment in public elementary and secondary schools, by selected grade, with projections: Fall 1991 to fall 2011 ... 8

7. Percent change in grades K–12 enrollment in public schools, by state: Fall 1999 to fall 2011 ... 9

8. Percent change in public K–12 enrollment, by region: Fall 1999 to fall 2011 ... 9

9. Percent change in grades K–8 enrollment in public schools, by state: Fall 1999 to fall 2011 ... 10

10. Percent change in public K–8 enrollment, by region: Fall 1999 to fall 2011 ... 10

11. Percent change in grades 9–12 enrollment in public schools, by state: Fall 1999 to fall 2011 ... 11

12. Percent change in public 9–12 enrollment, by region: Fall 1999 to fall 2011 ... 11

College-Age Population

13. College-age populations, (18-24 years and 25-29 years), with projections: 1986 to 2011 ... 28

14. College-age populations, (30-34 years and 35-44 years), with projections: 1986 to 2011 ... 28

Degree-Granting Institutions

15. Enrollment in degree-granting institutions, with alternative projections: Fall 1986 to fall 2011 ... 29

16. Average annual growth rates for total enrollment in degree-granting institutions: Fall 1986 to fall 2011 ... 29

17. Enrollment in degree-granting institutions, by sex, with middle alternative projections: Fall 1986 to fall 2011 30

18. Average annual growth rates for total enrollment in degree-granting institutions, by sex: Fall 1986 to fall 2011 30

19. Enrollment in degree-granting institutions, by attendance status, with middle alternative projections: Fall 1986 to fall 2011 31

20. Average annual rates of change for total enrollment in degree-granting institutions, by attendance status: Fall 1986 to fall 2011 31

21. Enrollment in degree-granting institutions, by control of institution, with alternative projections: Fall 1986 to fall 2011 32

22. Average annual growth rates for total enrollment in degree-granting institutions, by control of institution: Fall 1986 to fall 2011 32

23. Enrollment in degree-granting institutions, by type of institution, with alternative projections: Fall 1986 to fall 2011 33

24. Average annual growth rates for total enrollment in degree-granting institutions, by type of institution: Fall 1986 to 2011 33

25. Undergraduate enrollment in degree-granting institutions, with alternative projections: Fall 1986 to fall 2011 34

26. Average annual growth rates for undergraduate enrollment in degree-granting institutions: Fall 1986 to fall 2011 34

27. Postbaccalaureate enrollment in degree-granting institutions, with alternative projections: Fall 1986 to fall 2011 35

28. Average annual growth rates for postbaccalaureate enrollment in degree-granting institutions: Fall 1986 to fall 2011 35

29. Full-time-equivalent enrollment in degree-granting institutions, with alternative projections: Fall 1986 to fall 2011 36

30. Average annual growth rates for full-time-equivalent enrollment in degree-granting institutions: Fall 1986 to fall 2011 36

31. Enrollment in degree-granting institutions, by age group, with middle alternative projections: Fall 1991, 2001, and 2011 37

32. Enrollment of men in degree-granting institutions, by age group, with middle alternative projections: Fall 1991, 2001, and 2011 38

33. Enrollment of women in degree-granting institutions, by age group, with middle alternative projections: Fall 1991, 2001, and 2011 38

High School Graduates

34. Eighteen-year-old population, with projections: 1986 to 2011 55

35. High school graduates, with projections: 1985–86 to 2010–11 55

36. High school graduates, by control of institution, with projections: 1985–86 to 2010–11 56

37. Average annual rates of change for high school graduates: 1985–86 to 2010–11 56

38. Percent change in number of public high school graduates, by state: 1998-99 to 2010–11 57

39. Percent change in number of public high school graduates, by region: 1998–99 to 2010–11 57

Earned Degrees Conferred

40. Associate's degrees, by sex of recipient, with projections: 1985–86 to 2010–11 65

41. Bachelor's degrees, by sex of recipient, with projections: 1985–86 to 2010–11 65

42. Master's degrees, by sex of recipient, with projections: 1985–86 to 2010–11 66

43. Doctor's degrees, by sex of recipient, with projections: 1985–86 to 2010–11 66

44. First-professional degrees, by sex of recipient, with projections: 1985–86 to 2010–11 67

Elementary and Secondary Teachers

45. Elementary and secondary teachers, with alternative projections: Fall 1986 to fall 2011 75

46. Average annual growth rates for elementary and secondary teachers: Fall 1986 to fall 2011 75

47. Elementary and secondary teachers, by organizational level, with middle alternative projections: Fall 1986 to fall 2011 76

48. Average annual growth rates for elementary and secondary teachers, by organizational level: Fall 1986 to fall 2011 76

49. Elementary and secondary teachers, by control of institution, with middle alternative projections: Fall 1986 to fall 2011 77

50. Average annual growth rates for elementary and secondary teachers, by control of institution: Fall 1986 to fall 2011 77

51. Pupil/teacher ratios in elementary and secondary schools, with middle alternative projections: Fall 1986 to fall 2011 78

52. Pupil/teacher ratios in elementary and secondary schools, by control of institution, with middle alternative projections: Fall 1986 to fall 2011 78

Expenditures

53. Current expenditures of public schools (in constant 1999–2000 dollars), with alternative projections: 1985–86 to 2010–11 84

54. Current expenditures per pupil in fall enrollment in public schools (in constant 1999–2000 dollars), with alternative projections: 1985–86 to 2010–11 84

55. Annual percentage change in current expenditures per pupil in fall enrollment in public schools (in constant dollars), with alternative projections: 1985–86 to 2010–11 85

56. Annual percentage change in current expenditures per pupil in fall enrollment in public schools, disposable income per capita, and education revenue receipts from state sources per capita (all in constant dollars), with middle alternative projections: 1985–86 to 2010–11 85

57. Estimated average annual salaries of teachers in public schools (in constant 1999-2000 dollars), with alternative projections: 1985–86 to 2010–11 86

58. Annual percentage change in estimated average annual salaries of teachers in public schools (in constant dollars), with alternative projections: 1985–86 to 2010–11 86

59. Annual percentage change in estimated average annual salaries of teachers and current expenditures per pupil in fall enrollment of public schools, with middle alternative projections: 1985–86 to 2010–11 87

Tables

Enrollment

Elementary and Secondary Schools

1. Enrollment in grades K–8 and 9–12 of elementary and secondary schools, by control of institution, with projections: Fall 1986 to fall 2011 12

2. Enrollment in elementary and secondary schools, by organizational level and control of institution, with projections: Fall 1986 to fall 2011 13

3. Enrollment in public elementary and secondary schools, by grade, with projections: Fall 1991 to fall 2011 14

4. Enrollment in grades K–12 in public elementary and secondary schools, by region and state, with projections: Fall 1993 to fall 2011 15

5. Percent change in grades K–12 enrollment in public schools, by region and state, with projections: Fall 1993 to fall 2011 17

6. Enrollment in grades K–8 in public schools, by region and state, with projections: Fall 1993 to fall 2011 18

7. Percent change in grades K–8 enrollment in public schools, by region and state, with projections: Fall 1993 to fall 2011 20

8. Enrollment in grades 9–12 in public schools, by region and state, with projections: Fall 1993 to fall 2011 21

9. Percent change in grades 9–12 enrollment in public schools, by region and state, with projections: Fall 1993 to fall 2011 23

Degree-Granting Institutions

10. Total enrollment in all degree-granting institutions, by sex, attendance status, and control of institution, with alternative projections: Fall 1986 to fall 2011 39

11A. Total enrollment in all degree-granting institutions, by sex, age, and attendance status: Fall 1986 to fall 1999 40

11B. Total projected enrollment in all degree-granting institutions, by sex, age, and attendance status, with middle alternative projections: Fall 2000 to fall 2011 41

12. Total enrollment in all degree-granting institutions, by sex, age, and attendance status, with low alternative projections: Fall 1991, 1996, 1999, 2006, and 2011 42

13. Total enrollment in all degree-granting institutions, by sex, age, and attendance status, with high alternative projections: Fall 1991, 1996, 1999, 2006, and 2011 43

14. Total enrollment in all degree-granting institutions, by sex and attendance status, with alternative projections: Fall 1986 to fall 2011 44

15. Total enrollment in public 4-year degree-granting institutions, by sex and attendance status, with alternative projections: Fall 1986 to fall 2011 45

16. Total enrollment in public 2-year degree-granting institutions, by sex and attendance status, with alternative projections: Fall 1986 to fall 2011 46

17. Total enrollment in private 4-year degree-granting institutions, by sex and attendance status, with alternative projections: Fall 1986 to fall 2011 47

18. Total enrollment in private 2-year degree-granting institutions, by sex and attendance status, with alternative projections: Fall 1986 to fall 2011 48

19. Total undergraduate enrollment in all degree-granting institutions, by sex, attendance status, and control of institution, with alternative projections: Fall 1986 to fall 2011 49

20. Total graduate enrollment in all degree-granting institutions, by sex, attendance status, and control of institution, with alternative projections: Fall 1986 to fall 2011 50

21. Total first-professional enrollment in all degree-granting institutions, by sex, attendance status, and control of institution, with alternative projections: Fall 1986 to fall 2011 51

22. Total full-time-equivalent enrollment in all degree-granting institutions, by control and type of institution, with alternative projections: Fall 1986 to fall 2011 52

High School Graduates

23. High school graduates, by control of institution, with projections: 1985–86 to 2010–11 58

24. High school graduates in public schools, by region and state, with projections: 1992–93 to 2010–11 59

25. Percent change in number of public high school graduates, by region and state, with projections: 1992–93 to 2010–11 61

Earned Degrees Conferred

26. Associate's degrees, by sex of recipient, with projections: 1985–86 to 2010–11 68

27. Bachelor's degrees, by sex of recipient, with projections: 1985–86 to 2010–11 69

28. Master's degrees, by sex of recipient, with projections: 1985–86 to 2010–11 70

29. Doctor's degrees, by sex of recipient, with projections: 1985–86 to 2010–11 71

30. First-professional degrees, by sex of recipient, with projections: 1985–86 to 2010–11 72

Teachers

Elementary and Secondary Schools

31. Elementary and secondary teachers, by control of institution and organizational level, with alternative projections: Fall 1986 to fall 2011 79

32. Pupil/teacher ratios in elementary and secondary schools, by control of institution, with alternative projections: Fall 1986 to fall 2011 80

Expenditures

Public Elementary and Secondary Schools

33. Current expenditures and current expenditures per pupil in fall enrollment in public elementary and secondary schools, with alternative projections: 1985–86 to 2010–11 88

34. Current expenditures and current expenditures per pupil in average daily attendance (ADA) in public elementary and secondary schools, with alternative projections: 1985–86 to 2010–11 89

35. Estimated average annual salaries of classroom teachers in public elementary and secondary schools, with alternative projections: 1985–86 to 2010–11 90

Appendix A

Methodological Tables

Enrollment

A1. Summary of forecast assumptions to 2011 96

A2. Mean absolute percentage errors (MAPEs) by lead time for selected statistics in public elementary and secondary schools and degree-granting institutions 97

A1.1. College enrollment rates, by age, sex, and attendance status, with middle alternative projections: Fall 1999, 2006, and 2011 103

A1.2. Equations for full-time and part-time college enrollment rates of men 104

A1.3. Equations for full-time and part-time college enrollment rates of women 105

A1.4. Enrollment rates in public schools, by grade level: Fall 1999, 2006, and 2011 106

A1.5. Public school grade progression rates: fall 1999, 2006, and 2011 106

A1.6. Full-time enrollment, by level enrolled and type of institution, as a percent of total enrollment, for each age and sex classification: Fall 1999, 2006, and 2011 107

A1.7. Part-time enrollment, by level enrolled and type of institution, as a percent of total enrollment, for each age and sex classification: Fall 1999, 2006, and 2011 108

A1.8. Public college enrollment as a percent of total enrollment, by attendance status, sex, level enrolled, and type of institution: Fall 1999, 2006, and 2011 109

A1.9. Graduate enrollment as a percent of total postbaccalaureate enrollment, by sex, attendance status, and type and control of institution: Fall 1999, 2006, and 2011 109

A1.10. Full-time-equivalent of part-time enrollment as a percent of part-time enrollment, by level enrolled and by type and control of institution: Fall 1999, 2006, and 2011 109

A1.11. Number of years, projection methods, and smoothing constants used to project public school enrollment and high school graduates, by state 109

A1.12. Enrollment (assumptions) 110

Earned Degrees Conferred

A3.1. Equations for earned degrees conferred 114

A3.2. Earned degrees conferred (assumptions) 115

Public Elementary and Secondary Teachers

A4.1. Equations for public elementary and secondary teachers 119

Public Elementary and Secondary School Expenditures

A5.1. Equations for current expenditures per pupil in fall enrollment, estimated average annual salaries of teachers, and education revenue receipts from state sources 127

Appendix B

Supplementary Tables

B1. Annual number of births (U.S. Census projections, Middle Series): 1951 to 2011 131

B2. Preprimary school-age populations (U.S. Census projections, Middle Series): 1986 to 2011 132

B3. School-age populations (U.S. Census projections, Middle Series), ages 5, 6, 5 to13, and 14 to17 years: 1986 to 2011 133

B4. College-age populations (U.S. Census projections, Middle Series), ages 18, 18 to 24, 25 to 29, 30 to 34, and 35 to 44 years: 1986 to 2011 134

B5. Fall enrollment in public elementary and secondary schools, change in fall enrollment, the population, and fall enrollment as a proportion of the population: 1985-86 to 2010-11 135

B6. Macro-economic measures of the economy, with alternative projections: Fiscal year 1985–86 to 2010–11 136

B7. Measures of state and local government revenues, with alternative projections: Fiscal year 1985–86 to 2010–11 137

Appendix E

1999 IPEDS (Fall Enrollment) Survey Methodology

E1. Total fall enrollment in degree-granting institutions, by level of enrollment, sex, attendance status, and type and control of institution: 1999 158

E2. Response rates for degree-granting institutions from the Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment" survey: 1999 159

Introduction

Guide to This Edition

This edition of *Projections of Education Statistics to 2011* provides projections for key education statistics, including enrollment, graduates, teachers, and expenditures in elementary and secondary schools and enrollment and graduates of degree-granting institutions. Current-fund expenditures of degree-granting institutions are excluded from this edition because of lack of available data for recent years. The tables, figures, and text contain national data on enrollment, teachers, graduates, and expenditures for the past 14 years and projections to the year 2011. The tables, figures, and text contain state-level data on projections of public school elementary and secondary enrollment and public high school graduates to the year 2011. Similar methodologies were used to obtain a uniform set of projections for the 50 states and the District of Columbia. These projections are further adjusted to agree with the national projections of public elementary and secondary school enrollment and public high school graduates appearing in this report. These projections reflect 1999 population estimates and population projections based on the 1990 census, but are not adjusted for the 1990 net undercount of 4 to 5 million. The population projections are not based on the 2000 census data. Projections of national population data are not scheduled for release until 2002. Appendix A describes the methodology and assumptions used to develop the projections. Appendix B contains tables of supplementary data. Data sources are presented in appendix C. Appendix D is a glossary of terms. Appendix E describes the survey methodology of the 1999 Integrated Postsecondary Education Data System (Fall Enrollment).

Limitations of Projections

Projections of time series usually differ from the final reported data due to errors from many sources. This is because of the inherent nature of the statistical universe from which the basic data are obtained and the properties of projection methodologies, which depend on the validity of many assumptions. Therefore, alternative projections are shown for most statistical series to denote the uncertainty involved in making projections. These alternatives are not statistical confidence limits, but instead represent judgments made by the authors as to reasonable upper and lower bounds. The mean absolute percentage error is one way to express the forecast accuracy of past projections. This measure expresses the average value of the absolute value of errors in percentage terms. For example, the mean absolute percentage errors of public school enrollment in grades K-12 for lead times of 1, 2, 5, and 10 years were 0.2, 0.5, 1.2, and 2.9 percent, respectively. On the other hand, mean absolute percentage errors for doctor's degrees for lead times of 1, 2, and 5 years were 2.0, 2.8, and 3.7 percent respectively. For more information on mean absolute percentage errors, see table A2, page 97.

Alternative projections are presented for enrollment in degree-granting institutions, earned degrees conferred, elementary and secondary teachers, and expenditures of public elementary and secondary schools.

20

Chapter 1

Elementary and Secondary Enrollment

National

Projections show public and private elementary and secondary school enrollments having peaked in Fall 2000 at a record level. The record 2000 enrollment reflects an increase of 14 percent since fall 1990. Further small enrollment increases are expected between 2000 and 2005, followed by small enrollment declines for most of the years between 2005 and 2011 (table 1). The primary reason for the continuing increase over the first 5 years is the rise in the number of annual births between 1977 and 1990—sometimes referred to as the baby boom echo (appendix table B1 and figure 1). After small declines and a period of stability from 1991 to 1997, the number of births has begun rising again. Reflecting this, the 3- to 5-year-old population is projected to increase 4 percent by 2011 (appendix table B2 and figure 2). Increases in the 5- to 13-year-old population from 1999 to 2002 and decreases from 2003 to 2008, followed by slight increases in 2009 to 2011 are expected to cause rises in K-8 enrollment in 2001 and decreases through 2008 and then increases to 2011. Over the next decade, elementary enrollment is projected to remain at the high levels evident in the late 1990s (figure 4). Growth in the 14- to 17-year-old population to 2007 and decline through 2011 will continue to influence growth in grades 9 through 12 enrollment through 2006. Between 2000 and 2011 enrollment in secondary schools is projected to exceed enrollment in the late 1990s.

Enrollment, by Grade Group

Enrollment in grades K-8 increased from 34.0 million in 1990 to approximately 38.1 million in 2000, an increase of 12 percent. Enrollment in grades K-8 is projected to increase slightly to 38.2 million in 2001, and then decrease slowly through 2008 to 37.4 million. Thereafter, elementary enrollment is expected to begin increasing again, rising to 37.7 million by 2011 (table 1 and figure 4).

Enrollment in grades 9-12 has risen from 12.5 million in 1990 to a projected 14.8 million in 2000, an increase of 18 percent. Thereafter, enrollment in grades 9-12 is projected to rise to 15.9 million in 2006, before decreasing slightly to 15.3 million by 2011, an increase of 4 percent from 2000. In the year 2005, enrollment in grades 9-12 is projected to reach an all-time record of 15.8 million, surpassing the previous high of 15.7 million in fall 1976.

Enrollment, by Control of School

Enrollment in public elementary and secondary schools increased from 39.8 million in 1986 to 46.9 million in 1999, an increase of 18 percent (figure 5). Enrollment in public schools is projected to rise slightly over the next 6 years, then decrease slightly over most of the following 6 years (table 2). In 2011, public school enrollment is projected to be 47.2 million.

Since the mid-1980s, enrollment in private elementary and secondary schools has fluctuated between 5.2 million and 6.0 million. In fall 2000, an estimated 5.9 million students will be enrolled in private elementary and secondary schools. Enrollment in private schools is projected to remain around that level between 2000 and 2011.

Public School Enrollment, by Grade

Between 2000 and 2011, public school enrollment in grades K-12 is projected to remain virtually unchanged. However, projections of public school enrollment by grade will vary over the projection period (table 3 and figure 6). Enrollment in grade 1 is projected to decrease through 2002 and then increase slightly through 2011. Enrollment in grade 4 is expected to decrease through 2005 and then increase through 2011. Enrollment in grade 8 is projected to increase to 2003 and then decrease to 2011. Enrollment in grade 12 is expected to increase through 2007 and then decrease to 2011.

Methodology

Enrollment rates for the school-age populations are nearly 100 percent for elementary grades and junior-high grades and close to 90 percent for high school grades. Thus, the historical and projected patterns of decline and growth in enrollment in grades K-8 and grades 9-12 are strongly correlated with changes in the sizes of the 5- to 13-year-old population and the 14- to 17-year-old population. Projections of enrollments in public and private elementary and secondary schools are based on projected grade progression rates. The grade progression rates for grades 2 through 10 are all close to 100 percent. Rates for grade 6 to grade 7 and grade 8 to grade 9 are significantly over 100 percent. Traditionally, these are the grades in which large numbers of elementary students transfer to public/private secondary schools. The progression rates for grades 10 to 11 and 11 to 12 are about 90 percent. The grade progression rates are assumed to be constant over the projection period

Projections of public elementary and secondary enrollment that have been produced over the last 18 years are more accurate than projections of public high school graduates and public classroom teachers that NCES has published over the same time period. For more information, see table A2, page 97.

State

Public elementary and secondary school enrollment is projected to rise less than 1 percent between 1999 and the year 2011, but growth will vary widely across the nation (table 4 and figure 7). Enrollment will increase in the Western and Southern regions, where public school enrollment is expected to rise 8 percent and 1 percent, respectively. A decrease of 4 percent is projected for the Northeastern region, while a decrease of 3 percent is expected in the Midwestern region (table 5 and figure 8).

Public School Enrollment

Over the projection period, public school enrollment is expected to vary across states. All of the states in the Northeast except New Jersey will have enrollment decreases. Decreases will occur in Connecticut (6 percent), Maine (6 percent), Massachusetts (5 percent), New Hampshire (0.9 percent), New York (5 percent), Pennsylvania (6 percent), Rhode Island (7 percent), and Vermont (3 percent).

In the Midwest, public school enrollment will decrease in all states between 1999 and 2011. Decreases are projected for Illinois (0.4 percent), Indiana (0.7 percent), Iowa (5 percent), Kansas (1 percent), Michigan (7 percent), Minnesota (4 percent), Missouri (2 percent), Nebraska (1 percent), North Dakota (7 percent), Ohio (6 percent), South Dakota (2 percent), and Wisconsin (3 percent).

Public school enrollment increases are projected for seven of the 17 Southern states between 1999 and 2011. Increases are projected for Delaware (1.3 percent), District of Columbia (1 percent), Georgia (7 percent), Maryland (0.9 percent), Tennessee (2 percent), Texas (7 percent), and Virginia (4 percent). Decreases in enrollment have been projected for Alabama (1 percent), Arkansas (4 percent), Florida (1 percent), Kentucky (6 percent), Louisiana (4 percent), Mississippi (2 percent), North Carolina (2 percent), Oklahoma (8 percent), South Carolina (4 percent), and West Virginia (10 percent).

All of the 13 states in the West are expected to show increases in public school enrollment between 1999 and 2011. Increases are expected in Alaska (13 percent), Arizona (10 percent), California (7 percent), Colorado (7 percent), Hawaii (12 percent), Idaho (17 percent), Montana (5 percent), Nevada (13 percent), New Mexico (14 percent), Oregon (1 percent), Utah (8 percent), Washington (3 percent), and Wyoming (8 percent).

Public Elementary Enrollment

Between 1999 and 2011, public elementary school enrollment in kindergarten through grade 8 (K-8) is expected to decrease by 1 percent. However, public school elementary enrollment is projected to increase in 20 states (table 6 and figure 9). These expected increases in elementary enrollment are a reflection of immigration and the relatively high level of births in the 1990s, rather than changes in the attendance rates of young children. The NCES projections do not account for enrollment increases that may be caused by changing state and local policies about the provision of prekindergarten and kindergarten programs. Expansion of these programs could lead to higher enrollments at the elementary school level.

Public school elementary enrollment is expected to show a decrease of 7 percent in the Northeast between 1999 and 2011 (table 7 and figure 10). All states are expected to show decreases. These decreases are projected for Connecticut (10 percent), Maine (4 percent), Massachusetts (8 percent), New Hampshire (3 percent), New Jersey (4 percent), New York (8 percent), Pennsylvania (7 percent), Rhode Island (9 percent), and Vermont (2 percent).

A decrease of 4 percent in public school elementary enrollment has been projected for the

Midwestern region between 1999 and 2011. Nine of the twelve states in this region are projected to show decreases. These will occur in Illinois (4 percent), Indiana (2 percent), Iowa (4 percent), Michigan (8 percent), Minnesota (3 percent), Missouri (2 percent), North Dakota (1 percent), Ohio (6 percent), and Wisconsin (3 percent). Increases are expected for Kansas (0.5 percent), Nebraska (2 percent), and South Dakota (4 percent).

A decrease of 1 percent is expected for the Southern region between 1999 and 2011. Thirteen of the 17 states are projected to show decreases. Decreases are projected for Alabama (2 percent), Arkansas (4 percent), Delaware (1 percent), District of Columbia (0.1 percent), Florida (4 percent), Kentucky (7 percent), Louisiana (2 percent), Maryland (2 percent), Mississippi (2 percent), North Carolina (6 percent), Oklahoma (6 percent), South Carolina (6 percent), and West Virginia (9 percent). Increases are expected in Georgia (4 percent), Tennessee (1 percent), Texas (6 percent), and Virginia (0.4 percent).

Public school elementary enrollment in the Western states is projected to increase by 6 percent between 1999 and 2011. All of the 13 states are projected to show increases. Over the projection period, enrollment increases are projected for Alaska (14 percent), Arizona (6 percent), California (6 percent), Colorado (5 percent), Hawaii (14 percent), Idaho (20 percent), Montana (10 percent), Nevada (3 percent), New Mexico (17 percent), Oregon (2 percent), Utah (11 percent), Washington (3 percent), and Wyoming (18 percent).

Public High School Enrollment

Between 1999 and 2011, enrollment in public high schools (grades 9 through 12) is expected to increase by 5 percent (table 8 and figure 11). Over the projection period, enrollment increases are projected in all of the regions except the Midwest.

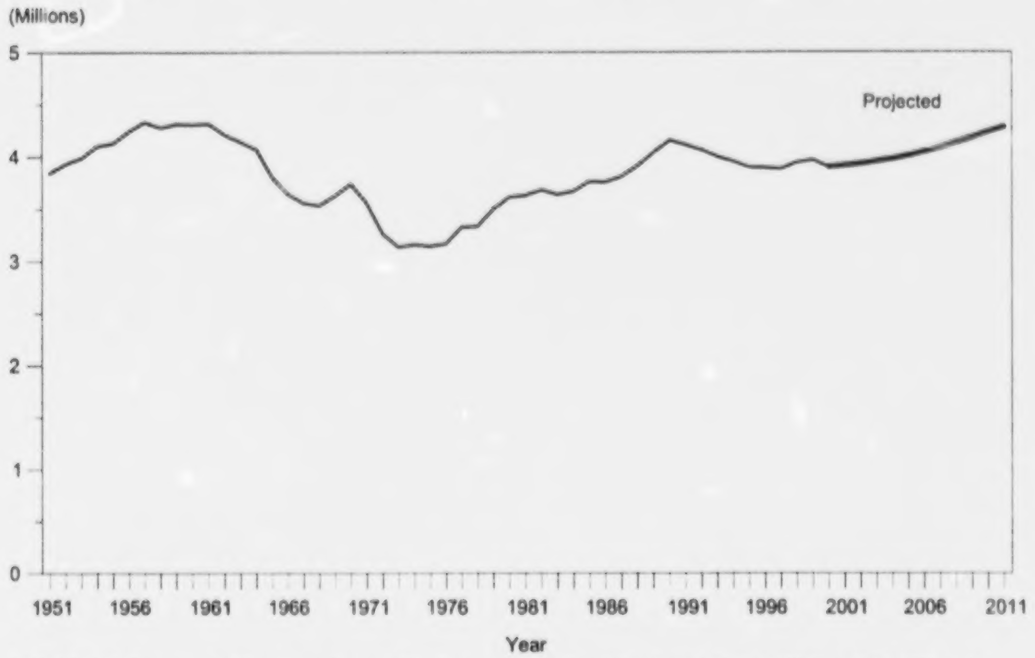
The Northeast public high school enrollment is projected to increase by 3 percent between 1999 and 2011 (table 9 and figure 12). Increases are expected in Connecticut (5 percent), Massachusetts (5 percent), New Hampshire (3 percent), New Jersey (13 percent), and New York (3 percent). Decreases are projected for Maine (10 percent), Pennsylvania (1 percent), Rhode Island (1 percent), and Vermont (7 percent).

The Midwestern region is expected to show a decrease of 1 percent in public high school enrollment between 1999 and 2011. Decreases are projected in Iowa (6 percent), Kansas (5 percent), Michigan (3 percent), Minnesota (6 percent), Missouri (0.2 percent), Nebraska (6 percent), North Dakota (18 percent), Ohio (4 percent), South Dakota (15 percent), and Wisconsin (4 percent). Enrollment increases are expected in Illinois (9 percent) and Indiana (3 percent).

Between 1999 and 2011, public high school enrollment in the South is projected to increase by 5 percent. Over the projection period, increases are expected in Delaware (7 percent), District of Columbia (5 percent), Florida (8 percent), Georgia (17 percent), Maryland (8 percent), Mississippi (0.2 percent), North Carolina (11 percent), Tennessee (6 percent), Texas (9 percent) and Virginia (11 percent). Decreases are expected for Alabama (0.1 percent), Arkansas (4 percent), Kentucky (6 percent), Louisiana (9 percent), Oklahoma (12 percent), South Carolina (0.7 percent), and West Virginia (12 percent).

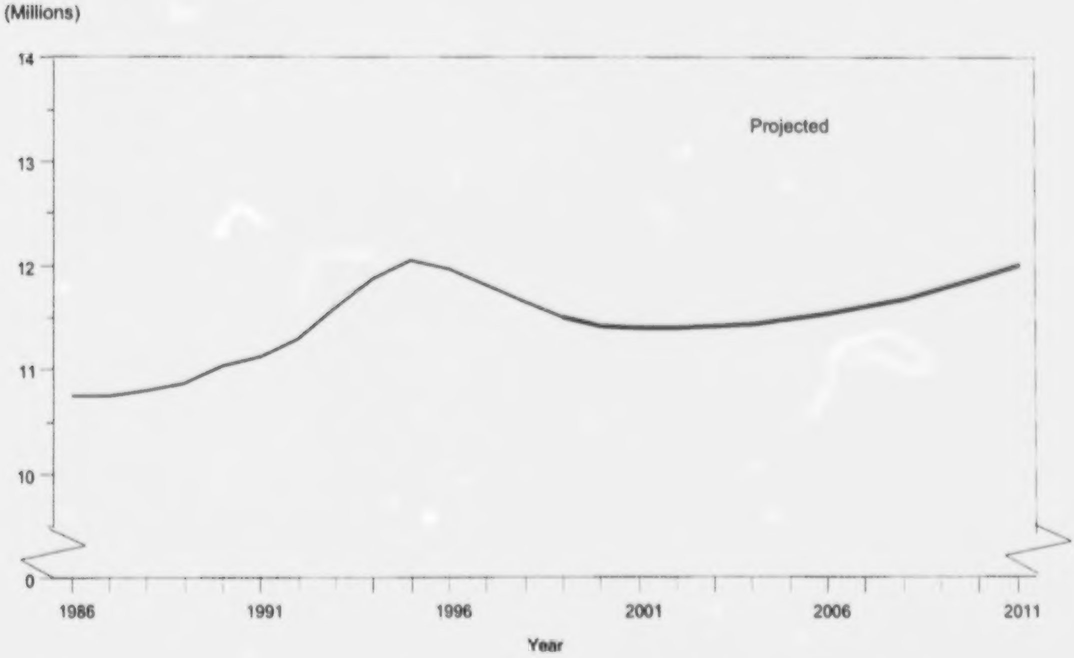
The Western region's public high school enrollment is expected to increase by 11 percent between 1999 and 2011. Between 1999 and 2011, increases have been projected for Arizona (21 percent), California (12 percent), Colorado (11 percent), Idaho (10 percent), and Nevada (42 percent). Other enrollment increases are expected for Alaska (9 percent), Hawaii (5 percent), New Mexico (9 percent), Utah (2 percent), and Washington (3 percent). Decreases are expected for Montana (5 percent), Oregon (0.6 percent), and Wyoming (12 percent).

Figure 1.–Annual number of births, with projections: 1951 to 2011



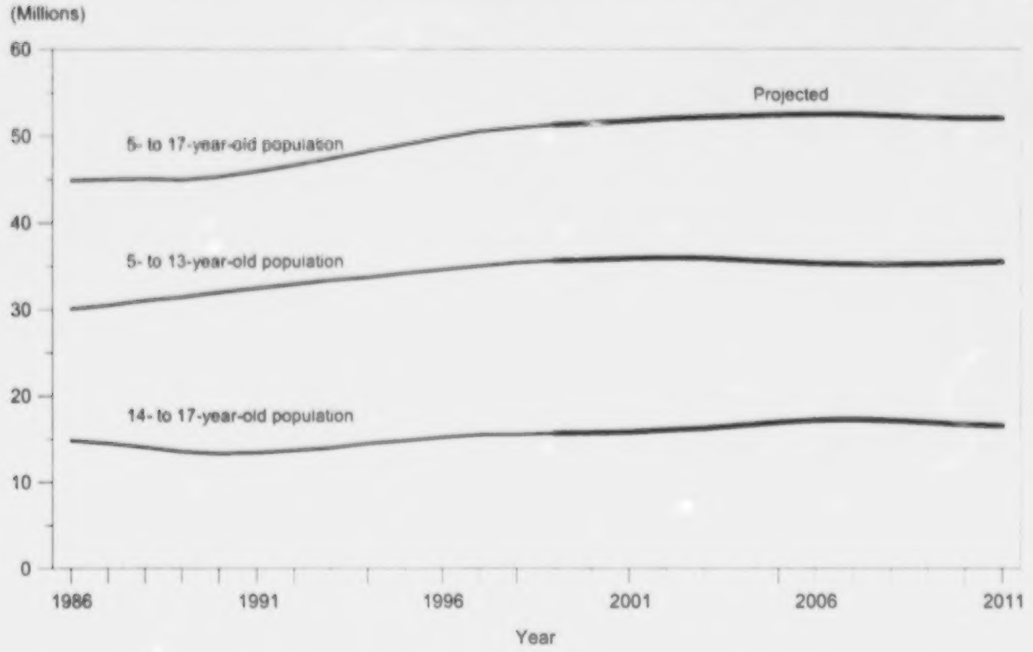
SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092, 1095, and "National Population Estimates," June 1999, and "Annual Projections of the Total Resident Population: 1999 to 2100," January 2000.

Figure 2.–Three- to five-year-old population, with projections: 1986 to 2011



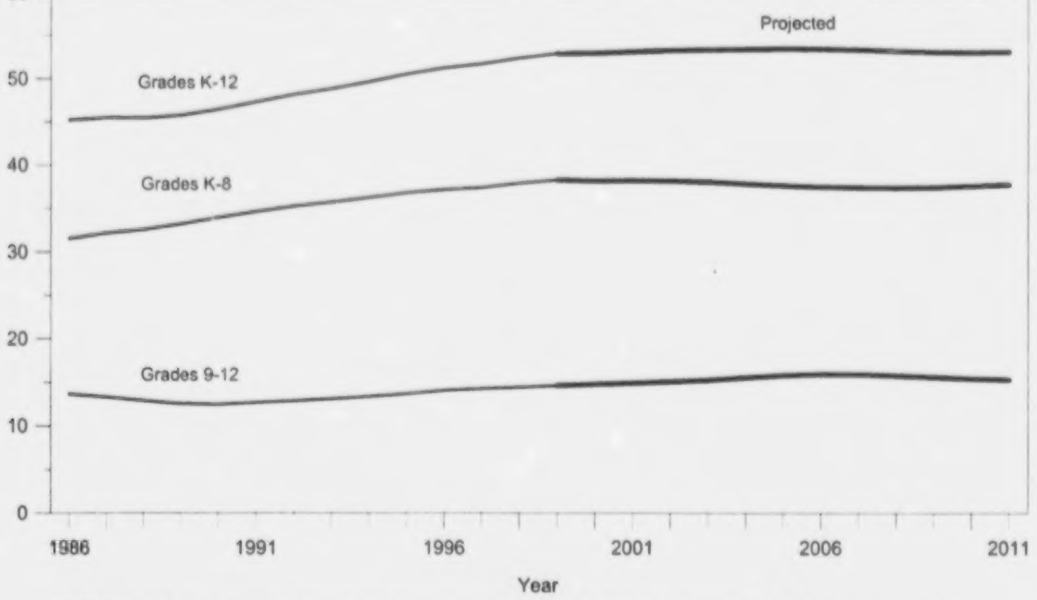
SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092, 1095, and "National Population Estimates," June 1999, and "Annual Projections of the Total Resident Population: 1999 to 2100," January 2000.

Figure 3.–School-age populations, with projections: 1986 to 2011



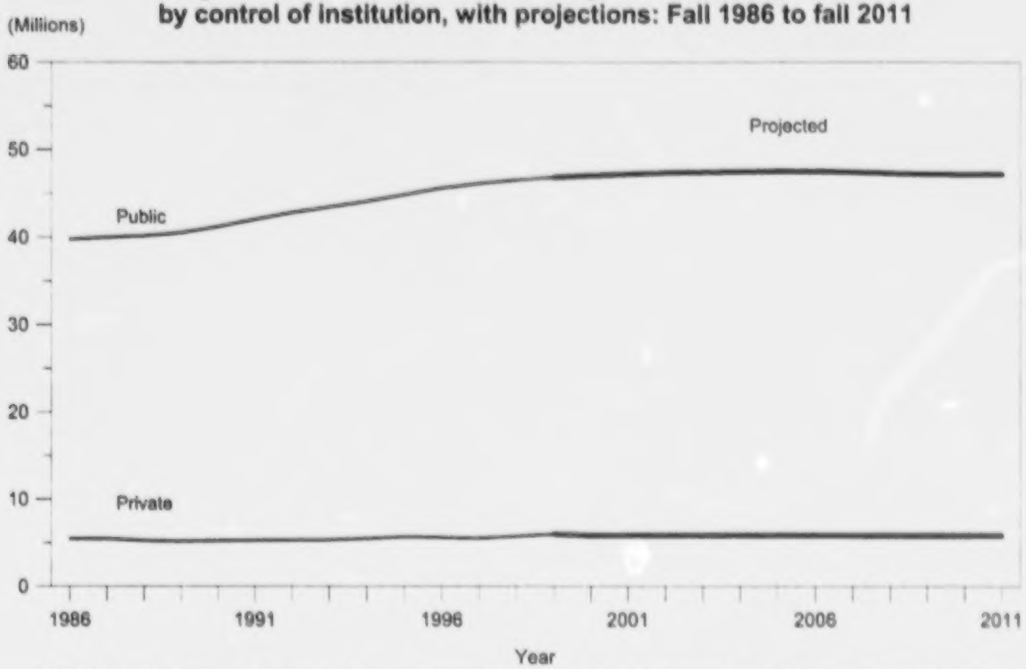
SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092, 1095, and "National Population Estimates," June 1999, and "Annual Projections of the Total Resident Population: 1999 to 2100," January 2000.

Figure 4.–Enrollment in elementary and secondary schools, by grade level, with projections: Fall 1986 to fall 2011



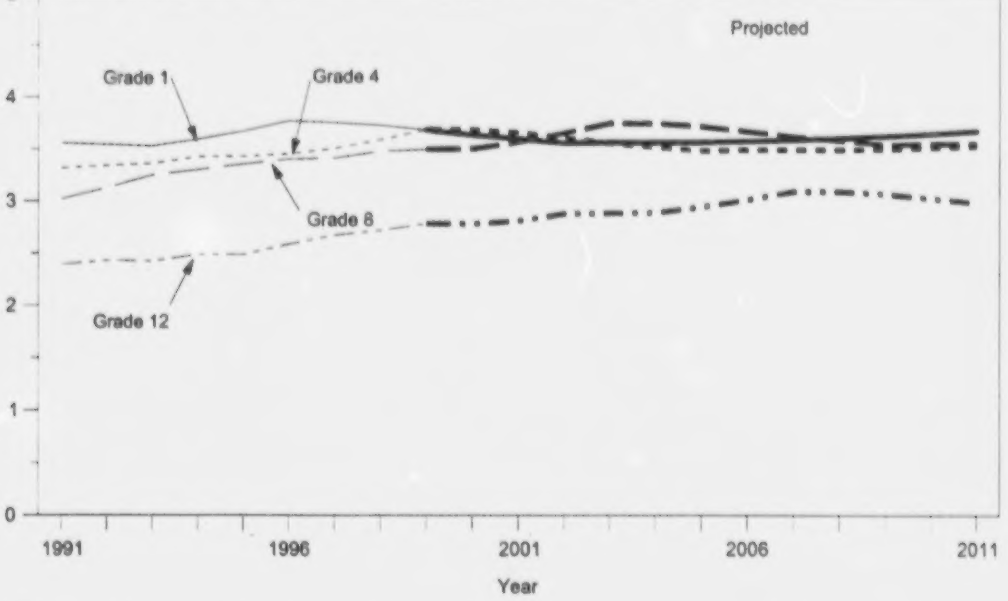
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; Private School Universe Survey, various years; and National Elementary and Secondary Enrollment Model.

Figure 5.—Enrollment in elementary and secondary schools, by control of institution, with projections: Fall 1986 to fall 2011



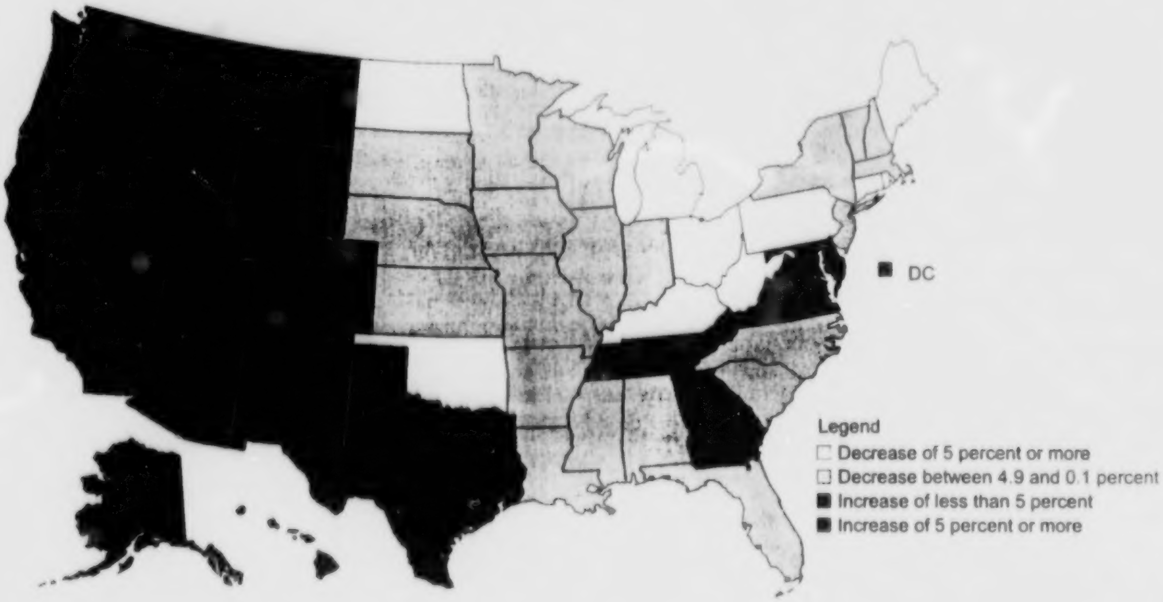
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; Private School Universe Survey, various years; and National Elementary and Secondary Enrollment Model.

Figure 6.—Enrollment in public elementary and secondary schools, by selected grade, with projections: Fall 1991 to fall 2011



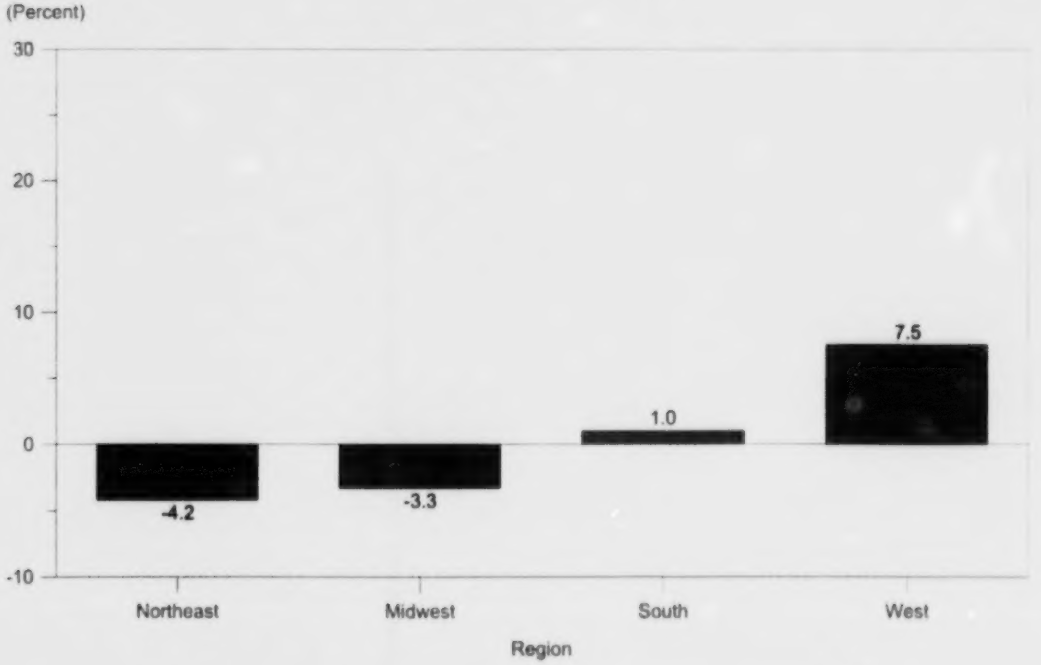
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; and Common Core of Data Surveys; and National Elementary and Secondary Enrollment Model.

Figure 7.—Percent change in grades K-12 enrollment in public schools, by state: Fall 1999 to fall 2011


■ DC
Legend
□ Decrease of 5 percent or more
□ Decrease between 4.9 and 0.1 percent
■ Increase of less than 5 percent
■ Increase of 5 percent or more

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys; and State Public Elementary and Secondary Enrollment Model.

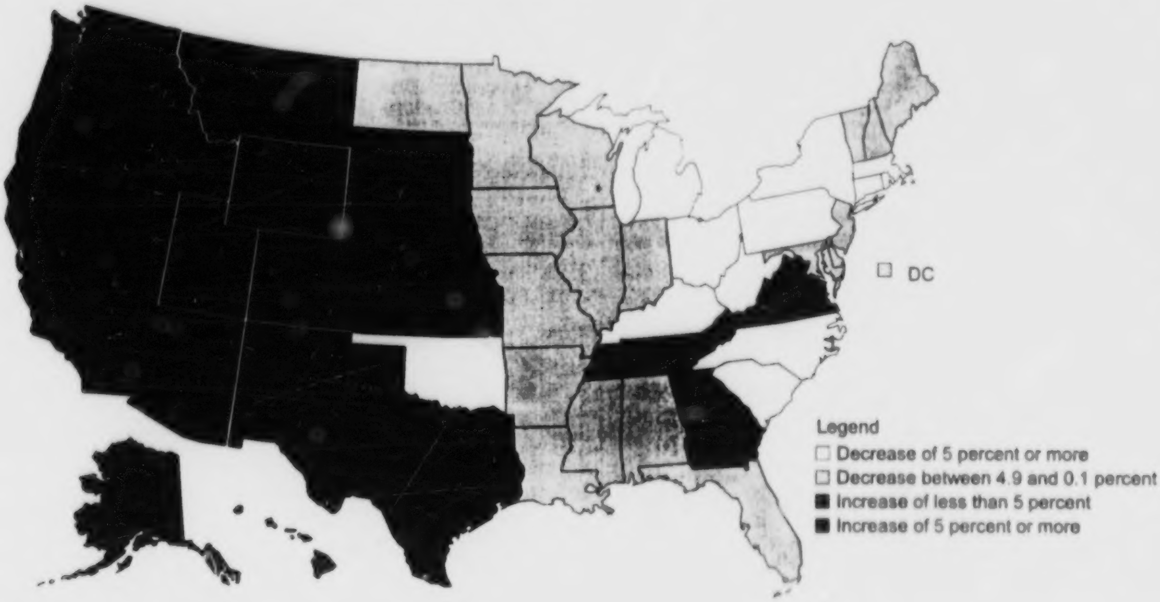
Figure 8.—Percent change in public K-12 enrollment, by region: Fall 1999 to fall 2011



SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys; and State Public Elementary and Secondary Enrollment Model.

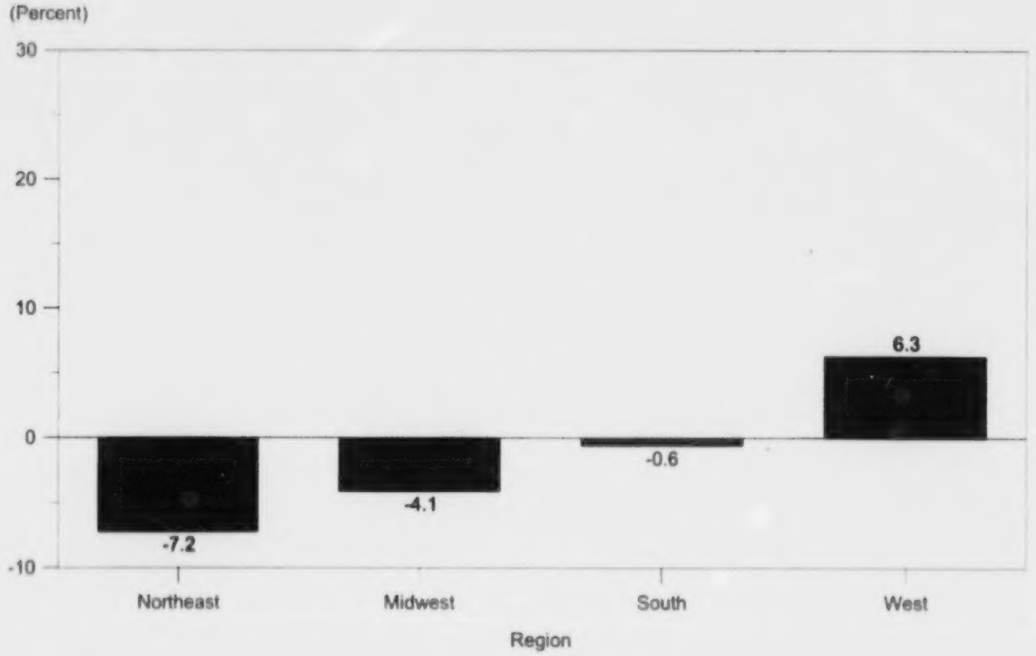
BEST COPY AVAILABLE

Figure 9.--Percent change in grades K-8 enrollment in public schools, by state: Fall 1999 to fall 2011


□ DC
Legend
□ Decrease of 5 percent or more
□ Decrease between 4.9 and 0.1 percent
■ Increase of less than 5 percent
■ Increase of 5 percent or more

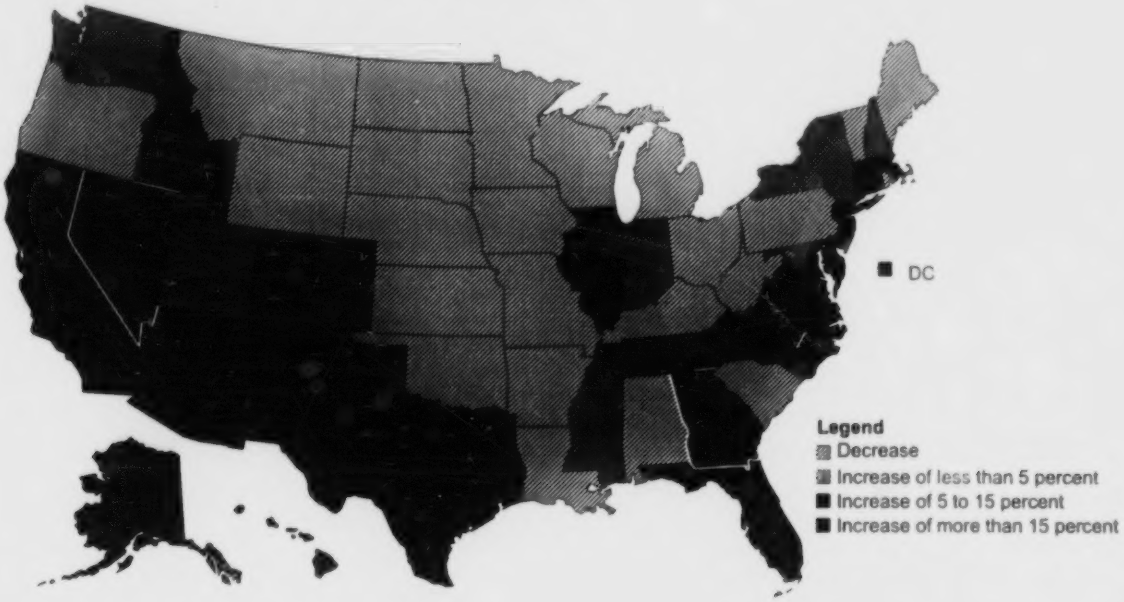
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys; and State Public Elementary and Secondary Enrollment Model.

Figure 10.--Percent change in public K-8 enrollment, by region: Fall 1999 to fall 2011



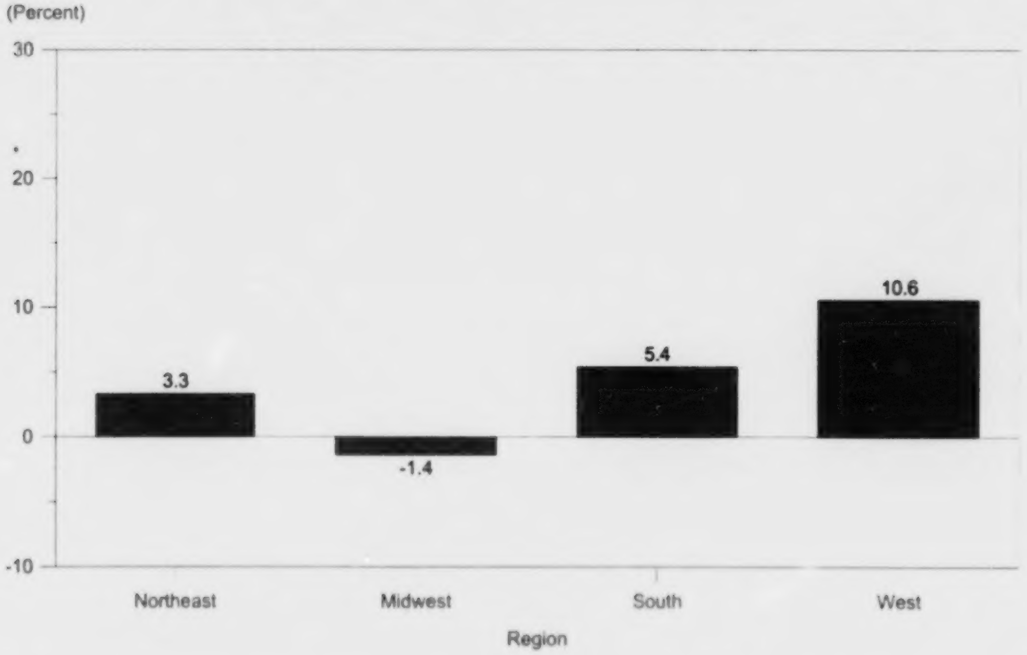
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys; and State Public Elementary and Secondary Enrollment Model.

Figure 11.--Percent change in grades 9-12 enrollment in public schools, by state: Fall 1999 to fall 2011


DC
Legend
▨ Decrease
▨ Increase of less than 5 percent
■ Increase of 5 to 15 percent
■ Increase of more than 15 percent

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys; and State Public Elementary and Secondary Enrollment Model.

Figure 12.--Percent change in public 9-12 enrollment, by region: Fall 1999 to fall 2011



SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys; and State Public Elementary and Secondary Enrollment Model.

BEST COPY AVAILABLE

Table 1.—Enrollment in grades K–8 and 9–12 of elementary and secondary schools, by control of institution, with projections: Fall 1986 to fall 2011

(In thousands)

Year	Total			Public			Private		
	K–12[1]	K–8[1]	9–12	K–12[1]	K–8[1]	9–12	K–12[1]	K–8[1]	9–12
1986 [2]	45,205	31,536	13,669	39,753	27,420	12,333	5,452	4,116	1,336
1987 [2]	45,487	32,165	13,323	40,008	27,933	12,076	5,479	4,232	1,247
1988 [2]	45,430	32,537	12,893	40,188	28,501	11,687	5,242	4,036	1,206
1989 [3]	45,741	33,187	12,553	40,543	29,152	11,390	5,198	4,035	1,163
1990 [4]	46,451	33,962	12,488	41,217	29,878	11,338	5,234	4,084	1,150
1991 [3]	47,322	34,619	12,703	42,047	30,506	11,541	5,275	4,113	1,162
1992 [4]	48,145	35,263	12,882	42,823	31,088	11,735	5,322	4,175	1,147
1993 [3]	48,813	35,719	13,093	43,465	31,504	11,961	5,348	4,215	1,132
1994 [4]	49,609	36,233	13,376	44,111	31,898	12,213	5,498	4,335	1,163
1995 [3]	50,502	36,806	13,697	44,840	32,341	12,500	5,662	4,465	1,197
1996 [4]	51,217	37,157	14,060	45,611	32,764	12,847	5,606	4,393	1,213
1997 [3]	51,652	37,380	14,272	46,127	33,073	13,054	5,525	4,307	1,218
1998 [4]	52,319	37,891	14,428	46,539	33,346	13,193	5,780	4,545	1,235
1999 [3]	52,875	38,253	14,623	46,857	33,488	13,369	6,018	4,765	1,254
					Projected				
2000	52,902	38,130	14,772	47,051	33,545	13,506	5,851	4,585	1,266
2001	53,065	38,163	14,902	47,213	33,587	13,626	5,852	4,576	1,276
2002	53,218	38,142	15,076	47,358	33,574	13,784	5,860	4,568	1,292
2003	53,293	38,026	15,267	47,432	33,475	13,957	5,861	4,551	1,310
2004	53,356	37,803	15,552	47,494	33,276	14,218	5,862	4,527	1,334
2005	53,397	37,601	15,796	47,536	33,091	14,445	5,861	4,510	1,351
2006	53,372	37,446	15,927	47,515	32,947	14,569	5,857	4,499	1,358
2007	53,279	37,362	15,917	47,430	32,868	14,562	5,849	4,494	1,355
2008	53,125	37,358	15,767	47,286	32,860	14,426	5,839	4,498	1,341
2009	53,014	37,422	15,592	47,178	32,913	14,265	5,836	4,509	1,327
2010	52,973	37,563	15,409	47,131	33,034	14,096	5,842	4,529	1,313
2011	53,026	37,732	15,294	47,170	33,179	13,991	5,856	4,553	1,303

[1] Includes most kindergarten and some nursery school enrollment.

[2] Private school numbers are estimated on the basis of past data.

[3] Private school numbers are from the Private School Universe Survey.

[4] Private school numbers are interpolated.

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools;* Common Core of Data surveys; Private School Universe Survey, various years; and National Elementary and Secondary Enrollment Model. (This table was prepared May 2001.)

Table 2.—Enrollment in elementary and secondary schools, by organizational level and control of institution, with projections: Fall 1986 to fall 2011

(In thousands)

Year	Total			Public			Private		
	K–12[1]	Elementary	Secondary	K–12[1]	Elementary	Secondary	K–12[1]	Elementary	Secondary
1986 [2]	45,205	28,613	16,592	39,753	24,497	15,256	5,452	4,116	1,336
1987 [2]	45,487	29,447	16,040	40,008	25,215	14,793	5,479	4,232	1,247
1988 [2]	45,430	29,776	15,654	40,188	25,740	14,448	5,242	4,036	1,206
1989 [3]	45,741	30,443	15,298	40,543	26,408	14,135	5,198	4,035	1,163
1990 [4]	46,451	31,134	15,317	41,217	27,050	14,167	5,234	4,084	1,150
1991 [3]	47,322	31,708	15,614	42,047	27,595	14,452	5,275	4,113	1,162
1992 [4]	48,145	32,280	15,865	42,823	28,105	14,718	5,322	4,175	1,147
1993 [3]	48,813	32,741	16,071	43,465	28,526	14,939	5,348	4,215	1,132
1994 [4]	49,609	33,285	16,324	44,111	28,950	15,161	5,498	4,335	1,163
1995 [3]	50,502	33,894	16,608	44,840	29,429	15,411	5,662	4,465	1,197
1996 [4]	51,217	34,328	16,889	45,611	29,935	15,676	5,606	4,393	1,213
1997 [3]	51,652	34,581	17,071	46,127	30,274	15,853	5,525	4,307	1,218
1998 [4]	52,319	35,089	17,230	46,539	30,544	15,995	5,780	4,545	1,235
1999 [3]	52,875	35,518	17,358	46,857	30,753	16,104	6,018	4,765	1,254
					Projected				
2000	52,902	35,267	17,635	47,051	30,682	16,369	5,851	4,585	1,266
2001	53,065	35,240	17,825	47,213	30,664	16,549	5,852	4,576	1,276
2002	53,218	35,146	18,072	47,358	30,578	16,780	5,860	4,568	1,292
2003	53,293	34,992	18,301	47,432	30,441	16,991	5,861	4,551	1,310
2004	53,356	34,783	18,573	47,494	30,256	17,239	5,862	4,527	1,334
2005	53,397	34,612	18,785	47,536	30,102	17,434	5,861	4,510	1,351
2006	53,372	34,497	18,875	47,515	29,998	17,517	5,857	4,499	1,358
2007	53,279	34,448	18,831	47,430	29,954	17,476	5,849	4,494	1,355
2008	53,125	34,474	18,651	47,286	29,976	17,310	5,839	4,498	1,341
2009	53,014	34,550	18,464	47,178	30,041	17,137	5,836	4,509	1,327
2010	52,973	34,689	18,284	47,131	30,160	16,971	5,842	4,529	1,313
2011	53,026	34,857	18,169	47,170	30,304	16,866	5,856	4,553	1,303

[1] Includes most kindergarten and some nursery school enrollment.

[2] Private school numbers are estimated on the basis of past data.

[3] Private school numbers are from the Private School Universe Survey.

[4] Private school numbers are interpolated.

NOTE: Some data have been revised from previously published figures. For private schools, it was assumed that numbers for elementary are the same as those in table 1 for grades K–8, and numbers for secondary are the same as those in table 1 for grades 9–12. Designation of grades as elementary or secondary varies from school to school. Detail may not sum to totals due to rounding. **Mean absolute percentage errors of selected education statistics can be found in table A2.**

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools;* Common Core of Data surveys; Private School Universe Survey, various years; and National Elementary and Secondary Enrollment Model. (This table was prepared May 2001.)

Table 3.—Enrollment in public elementary and secondary schools, by grade, with projections: Fall 1991 to fall 2011

(In thousands)

Year	Total	Kinder- garten[1]	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12	Elementary Unclassified	Secondary Unclassified
1991	42,047	3,686	3,556	3,360	3,334	3,315	3,268	3,239	3,181	3,020	3,313	2,915	2,645	2,392	545	275
1992	42,823	3,817	3,542	3,431	3,361	3,342	3,325	3,303	3,299	3,129	3,352	3,027	2,656	2,431	539	269
1993	43,465	3,922	3,529	3,429	3,437	3,361	3,350	3,356	3,355	3,249	3,487	3,050	2,751	2,424	515	248
1994	44,111	4,047	3,593	3,440	3,439	3,426	3,372	3,381	3,404	3,302	3,604	3,131	2,748	2,488	494	242
1995	44,840	4,173	3,671	3,507	3,445	3,431	3,438	3,395	3,422	3,356	3,704	3,237	2,826	2,487	502	245
1996	45,611	4,203	3,770	3,600	3,524	3,454	3,453	3,494	3,464	3,403	3,801	3,323	2,930	2,586	401	206
1997	46,127	4,199	3,755	3,689	3,597	3,507	3,458	3,492	3,520	3,415	3,819	3,376	2,972	2,673	442	214
1998	46,539	4,172	3,727	3,681	3,696	3,592	3,520	3,497	3,530	3,480	3,856	3,382	3,021	2,722	451	212
1999	46,857	4,148	3,684	3,655	3,690	3,686	3,604	3,564	3,541	3,497	3,935	3,415	3,034	2,782	418	203
									Projected							
2000	47,051	4,054	3,633	3,607	3,662	3,683	3,699	3,647	3,609	3,503	3,942	3,500	3,066	2,780	448	219
2001	47,213	4,013	3,598	3,557	3,614	3,656	3,696	3,743	3,692	3,569	3,948	3,506	3,142	2,809	450	220
2002	47,358	4,022	3,558	3,522	3,564	3,607	3,668	3,740	3,790	3,652	4,023	3,512	3,148	2,879	451	223
2003	47,432	4,022	3,567	3,484	3,529	3,557	3,619	3,711	3,786	3,748	4,117	3,579	3,153	2,884	450	226
2004	47,494	4,023	3,566	3,492	3,491	3,522	3,569	3,662	3,758	3,745	4,225	3,661	3,213	2,889	448	230
2005	47,536	4,034	3,568	3,491	3,499	3,484	3,534	3,612	3,708	3,717	4,222	3,758	3,287	2,944	445	235
2006	47,515	4,049	3,576	3,493	3,498	3,492	3,496	3,576	3,657	3,667	4,190	3,755	3,374	3,012	442	238
2007	47,430	4,067	3,588	3,501	3,500	3,491	3,504	3,537	3,621	3,617	4,134	3,726	3,371	3,091	441	240
2008	47,286	4,089	3,604	3,513	3,508	3,493	3,503	3,546	3,582	3,582	4,077	3,677	3,346	3,089	441	238
2009	47,178	4,115	3,624	3,529	3,520	3,501	3,505	3,545	3,590	3,543	4,037	3,626	3,301	3,065	442	236
2010	47,131	4,148	3,647	3,548	3,536	3,513	3,513	3,547	3,589	3,551	3,993	3,591	3,256	3,024	443	232
2011	47,170	4,184	3,674	3,571	3,555	3,529	3,525	3,555	3,591	3,550	4,003	3,552	3,224	2,983	445	230

[1] Includes most kindergarten and some nursery school enrollment.

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools;* Common Core of Data surveys; and National Elementary and Secondary Enrollment Model. (This table was prepared May 2001.)

Table 4.—Enrollment in grades K–12 in public elementary and secondary schools, by region and state, with projections: Fall 1993 to fall 2011

(In thousands)

Region and state	Actual							Projected		
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
United States	43,465	44,111	44,840	45,611	46,127	46,539	46,857	47,051	47,213	47,358
Northeast	7,654	7,760	7,894	8,006	8,085	8,145	8,196	8,218	8,248	8,264
Connecticut	496	507	518	527	535	545	554	555	558	558
Maine	217	213	214	214	213	211	209	208	207	205
Massachusetts	878	894	915	934	949	962	971	974	980	983
New Hampshire	185	189	194	198	202	205	207	206	207	208
New Jersey	1,151	1,174	1,197	1,228	1,250	1,269	1,289	1,298	1,310	1,320
New York	2,734	2,766	2,813	2,843	2,862	2,877	2,888	2,899	2,909	2,914
Pennsylvania	1,744	1,765	1,788	1,804	1,815	1,816	1,817	1,818	1,817	1,817
Rhode Island	146	147	150	151	153	155	156	155	155	155
Vermont	103	105	106	106	106	105	105	105	104	103
Midwest	10,289	10,386	10,512	10,638	10,704	10,722	10,726	10,702	10,695	10,685
Illinois	1,893	1,916	1,944	1,973	1,998	2,012	2,028	2,049	2,061	2,069
Indiana	966	969	977	983	987	989	989	991	993	995
Iowa	499	500	502	503	501	498	497	494	492	490
Kansas	458	461	463	466	469	472	472	470	468	466
Michigan	1,599	1,615	1,641	1,686	1,703	1,720	1,726	1,703	1,702	1,699
Minnesota	810	822	835	847	854	856	854	850	848	844
Missouri	866	879	890	901	911	913	914	914	914	914
Nebraska	285	287	290	292	293	291	288	287	286	285
North Dakota	119	119	119	120	119	115	113	111	110	108
Ohio	1,807	1,814	1,836	1,845	1,847	1,842	1,837	1,827	1,820	1,816
South Dakota	143	143	145	143	142	132	131	130	128	127
Wisconsin	844	861	870	879	882	880	878	875	873	872
South	15,591	15,851	16,118	16,373	16,563	16,713	16,842	16,939	16,990	17,044
Alabama	734	737	746	748	749	748	741	743	743	742
Arkansas	444	448	453	457	456	452	451	451	449	447
Delaware	106	107	108	111	112	113	113	114	114	115
District of Columbia	81	80	80	79	77	72	77	77	77	77
Florida	2,041	2,111	2,176	2,242	2,294	2,338	2,381	2,396	2,411	2,421
Georgia	1,235	1,271	1,311	1,347	1,376	1,401	1,423	1,444	1,459	1,474
Kentucky	655	658	660	656	669	656	648	647	643	641
Louisiana	801	798	797	793	777	769	757	758	750	744
Maryland	773	791	806	819	831	842	847	858	863	867
Mississippi	506	506	506	504	505	502	501	504	502	502
North Carolina	1,133	1,157	1,183	1,210	1,236	1,255	1,276	1,289	1,298	1,307
Oklahoma	604	610	616	621	624	628	627	614	607	601
South Carolina	644	649	646	653	659	665	667	659	661	661
Tennessee	867	881	894	905	893	905	916	925	928	931
Texas	3,608	3,677	3,748	3,829	3,892	3,945	3,992	4,022	4,038	4,061
Virginia	1,045	1,061	1,080	1,096	1,111	1,124	1,134	1,153	1,163	1,172
West Virginia	314	311	307	304	301	298	292	287	284	282
West	9,931	10,114	10,316	10,594	10,775	10,959	11,094	11,193	11,280	11,364
Alaska	126	127	128	130	132	135	134	136	138	139
Arizona	709	737	744	799	814	848	853	870	881	893
California	5,327	5,407	5,536	5,686	5,804	5,926	6,039	6,085	6,141	6,192
Colorado	625	641	656	673	687	699	708	715	721	726
Hawaii	180	184	187	188	190	188	186	188	189	190
Idaho	237	240	243	245	244	245	245	249	250	252
Montana	163	164	166	165	162	160	158	158	157	157
Nevada	236	251	265	282	297	311	326	334	343	352
New Mexico	322	327	330	333	332	329	324	331	332	334
Oregon	517	522	528	538	541	543	545	546	545	545
Utah	471	475	477	482	483	481	480	481	480	482
Washington	916	938	957	975	991	998	1,004	1,008	1,010	1,012
Wyoming	101	100	100	99	97	95	92	92	91	90

Table 4.—Enrollment in grades K–12 in public elementary and secondary schools, by region and state, with projections: Fall 1993 to fall 2011—Continued

(In thousands)

Region and state	Projected								
	2003	2004	2005	2006	2007	2008	2009	2010	2011
United States	47,432	47,494	47,536	47,515	47,430	47,286	47,178	47,131	47,170
Northeast	8,260	8,241	8,208	8,155	8,087	8,012	7,945	7,892	7,854
Connecticut	558	556	552	547	542	535	529	525	521
Maine	204	202	201	199	198	197	197	197	197
Massachusetts	982	981	976	969	960	949	940	932	926
New Hampshire	209	209	208	207	206	205	205	204	205
New Jersey	1,327	1,331	1,331	1,326	1,319	1,310	1,302	1,295	1,290
New York	2,911	2,905	2,892	2,871	2,845	2,816	2,790	2,769	2,753
Pennsylvania	1,812	1,803	1,793	1,781	1,766	1,750	1,735	1,724	1,716
Rhode Island	155	154	153	152	150	149	147	146	146
Vermont	103	102	102	101	101	101	100	101	101
Midwest	10,659	10,634	10,614	10,585	10,539	10,479	10,427	10,390	10,369
Illinois	2,073	2,075	2,076	2,075	2,067	2,054	2,040	2,029	2,019
Indiana	998	1,001	1,003	1,002	998	994	989	984	981
Iowa	487	485	485	484	482	479	476	474	473
Kansas	465	463	463	463	463	463	464	465	467
Michigan	1,693	1,687	1,680	1,670	1,657	1,640	1,626	1,617	1,610
Minnesota	839	834	832	830	826	823	821	821	822
Missouri	913	911	911	910	907	904	901	898	898
Nebraska	283	282	282	282	283	282	283	284	285
North Dakota	107	105	105	104	104	104	104	104	105
Ohio	1,808	1,801	1,793	1,783	1,772	1,759	1,747	1,737	1,730
South Dakota	126	125	125	125	125	126	127	128	129
Wisconsin	867	863	860	858	854	851	849	849	850
South	17,074	17,105	17,125	17,127	17,106	17,070	17,036	17,012	17,017
Alabama	742	742	742	741	739	737	734	732	731
Arkansas	446	444	444	442	440	437	434	432	431
Delaware	115	116	116	116	116	116	115	115	114
District of Columbia	77	77	77	77	77	77	77	77	78
Florida	2,421	2,422	2,420	2,411	2,400	2,385	2,371	2,361	2,356
Georgia	1,488	1,500	1,509	1,515	1,519	1,520	1,521	1,522	1,525
Kentucky	637	634	630	627	622	616	613	609	606
Louisiana	739	735	732	729	727	726	725	724	725
Maryland	869	870	869	867	863	858	856	854	854
Mississippi	503	503	504	503	503	500	498	495	493
North Carolina	1,312	1,315	1,314	1,310	1,301	1,290	1,278	1,267	1,257
Oklahoma	596	592	589	586	583	580	578	577	578
South Carolina	660	657	655	653	648	647	643	640	638
Tennessee	934	937	940	942	943	942	941	939	939
Texas	4,080	4,102	4,124	4,147	4,168	4,188	4,207	4,227	4,255
Virginia	1,176	1,181	1,185	1,187	1,185	1,181	1,178	1,174	1,173
West Virginia	280	278	276	274	272	269	267	264	263
West	11,439	11,515	11,589	11,648	11,697	11,726	11,770	11,836	11,930
Alaska	140	141	142	143	144	145	147	149	151
Arizona	903	911	919	925	929	931	932	933	935
California	6,234	6,276	6,314	6,340	6,361	6,369	6,390	6,430	6,488
Colorado	731	736	740	744	747	749	750	752	755
Hawaii	191	193	194	196	197	199	201	204	208
Idaho	255	259	263	267	271	274	278	282	286
Montana	157	157	157	158	159	161	162	164	166
Nevada	359	365	371	374	376	375	374	371	369
New Mexico	337	340	344	348	351	356	360	365	371
Oregon	544	545	545	546	546	546	546	548	551
Utah	484	488	492	496	501	505	509	514	519
Washington	1,013	1,015	1,018	1,020	1,022	1,022	1,024	1,027	1,032
Wyoming	90	90	90	91	93	94	96	98	100

NOTE: Some data have been revised from previously published figures. Includes most kindergarten and some nursery school enrollment. Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys and State Public Elementary and Secondary Enrollment Model. (This table was prepared May 2001.)

Table 5.—Percent change in grades K–12 enrollment in public schools, by region and state, with projections: Fall 1993 to fall 2011

Region and state	Actual	Projected		
	1993 to 1999	1999 to 2005	2005 to 2011	1999 to 2011
United States	7.8	1.4	-0.8	0.7
Northeast	7.1	0.1	-4.3	-4.2
Connecticut	11.6	-0.3	-5.7	-6.0
Maine	-3.6	-4.1	-1.6	-5.7
Massachusetts	10.7	0.5	-5.1	-4.6
New Hampshire	11.6	0.6	-1.5	-0.9
New Jersey	12.0	3.2	-3.1	0.0
New York	5.6	0.2	-4.8	-4.7
Pennsylvania	4.2	-1.3	-4.3	-5.6
Rhode Island	7.4	-2.1	-4.9	-6.9
Vermont	1.8	-2.6	-0.8	-3.4
Midwest	4.2	-1.0	-2.3	-3.3
Illinois	7.1	2.4	-2.7	-0.4
Indiana	2.4	1.4	-2.1	-0.7
Iowa	-0.2	-2.5	-2.3	-4.8
Kansas	3.2	-1.9	0.9	-1.1
Michigan	7.9	-2.7	-4.2	-6.7
Minnesota	5.4	-2.5	-1.2	-3.7
Missouri	5.5	-0.4	-1.4	-1.8
Nebraska	1.1	-2.2	1.2	-1.0
North Dakota	-5.4	-7.1	0.5	-6.7
Ohio	1.6	-2.4	-3.5	-5.8
South Dakota	-8.3	-4.6	3.0	-1.7
Wisconsin	4.0	-2.0	-1.2	-3.2
South	8.0	1.7	-0.6	1.0
Alabama	0.9	0.1	-1.4	-1.3
Arkansas	1.5	-1.7	-2.8	-4.4
Delaware	6.9	2.7	-1.3	1.3
District of Columbia	-4.3	-0.2	1.2	1.0
Florida	16.7	1.6	-2.6	-1.1
Georgia	15.2	6.1	1.0	7.2
Kentucky	-1.1	-2.7	-3.9	-6.5
Louisiana	-5.5	-3.3	-1.0	-4.2
Maryland	9.6	2.6	-1.7	0.9
Mississippi	-1.0	0.6	-2.1	-1.5
North Carolina	12.6	3.0	-4.3	-1.5
Oklahoma	3.8	-6.1	-1.7	-7.8
South Carolina	3.6	-1.7	-2.6	-4.3
Tennessee	5.7	2.6	-0.1	2.5
Texas	10.6	3.3	3.2	6.6
Virginia	8.5	4.5	-1.0	3.5
West Virginia	-7.2	-5.5	-4.8	-10.0
West	11.7	4.5	2.9	7.5
Alaska	6.7	5.4	6.8	12.6
Arizona	20.2	7.8	1.7	9.6
California	13.4	4.6	2.8	7.4
Colorado	13.3	4.5	1.9	6.6
Hawaii	3.0	4.5	6.8	11.7
Idaho	3.6	7.2	8.7	16.6
Montana	-3.3	-0.1	5.4	5.3
Nevada	38.1	13.8	-0.5	13.2
New Mexico	0.7	5.9	7.9	14.3
Oregon	5.5	0.0	1.0	1.0
Utah	1.9	2.5	5.5	8.1
Washington	9.6	1.4	1.4	2.9
Wyoming	-8.7	-1.9	10.5	8.4

NOTE: Calculations are based on unrounded numbers. Includes most kindergarten and some nursery school enrollment. Mean absolute percentage errors of selectec education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys and State Public Elementary and Secondary Enrollment Model. (This table was prepared May 2001.)

Table 6.—Enrollment in grades K–8 in public schools, by region and state, with projections: Fall 1993 to fall 2011

(In thousands)

Region and state	Actual							Projected		
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
United States	31,504	31,898	32,341	32,764	33,073	33,346	33,488	33,545	33,587	33,574
Northeast	5,486	5,568	5,659	5,729	5,774	5,820	5,841	5,827	5,816	5,784
Connecticut	369	376	384	389	394	399	404	401	399	396
Maine	157	156	156	156	153	151	149	146	145	144
Massachusetts	646	659	675	688	696	705	706	703	701	698
New Hampshire	136	139	142	144	145	147	147	145	145	145
New Jersey	844	862	880	903	921	936	954	957	960	958
New York	1,921	1,949	1,980	2,000	2,011	2,028	2,034	2,034	2,030	2,018
Pennsylvania	1,233	1,244	1,257	1,264	1,266	1,267	1,262	1,258	1,253	1,245
Rhode Island	107	108	110	110	112	112	114	112	111	110
Vermont	75	76	75	75	74	73	72	72	71	71
Midwest	7,348	7,387	7,448	7,504	7,554	7,565	7,551	7,520	7,509	7,493
Illinois	1,356	1,368	1,390	1,412	1,438	1,452	1,462	1,472	1,473	1,475
Indiana	679	679	684	689	693	697	699	704	708	709
Iowa	348	346	344	342	338	337	336	333	333	332
Kansas	330	329	329	328	328	327	326	324	324	323
Michigan	1,160	1,170	1,192	1,212	1,236	1,245	1,245	1,224	1,221	1,217
Minnesota	577	581	586	589	588	587	580	575	573	570
Missouri	622	628	636	643	650	651	649	646	646	645
Nebraska	203	203	203	203	202	200	197	196	196	196
North Dakota	84	83	82	82	80	77	75	74	74	73
Ohio	1,290	1,295	1,297	1,299	1,299	1,301	1,296	1,289	1,284	1,278
South Dakota	102	102	101	99	98	91	90	89	89	89
Wisconsin	596	601	603	605	604	601	596	592	589	587
South	11,440	11,604	11,772	11,911	12,022	12,127	12,191	12,245	12,259	12,264
Alabama	536	535	539	540	541	542	539	544	544	545
Arkansas	318	319	322	324	322	319	318	318	318	317
Delaware	77	77	77	78	79	80	80	81	81	81
District of Columbia	61	62	62	61	60	57	60	59	59	59
Florida	1,515	1,570	1,614	1,653	1,680	1,704	1,725	1,721	1,718	1,711
Georgia	910	935	966	991	1,011	1,029	1,044	1,059	1,067	1,074
Kentucky	467	467	468	466	474	464	459	459	457	455
Louisiana	587	584	580	575	564	558	548	550	546	543
Maryland	569	581	590	597	602	607	607	612	613	612
Mississippi	369	367	366	364	365	365	365	370	371	372
North Carolina	828	847	871	886	906	921	935	941	943	942
Oklahoma	441	443	446	445	445	448	447	435	431	428
South Carolina	467	469	463	468	473	478	484	477	476	474
Tennessee	630	641	651	657	653	665	664	672	675	678
Texas	2,681	2,721	2,757	2,800	2,832	2,868	2,896	2,913	2,920	2,931
Virginia	767	774	788	796	807	815	817	832	838	842
West Virginia	216	213	211	209	207	206	203	201	200	199
West	7,230	7,340	7,462	7,620	7,723	7,834	7,904	7,953	8,003	8,033
Alaska	94	94	93	94	96	97	96	97	97	98
Arizona	526	543	549	588	596	623	624	634	641	645
California	3,903	3,956	4,041	4,129	4,196	4,270	4,337	4,349	4,375	4,386
Colorado	460	470	479	487	494	501	507	510	513	515
Hawaii	132	134	136	136	136	135	133	136	137	138
Idaho	167	169	170	169	169	169	169	174	176	178
Montana	117	117	116	115	112	110	107	108	108	109
Nevada	175	185	196	208	219	229	240	244	249	252
New Mexico	226	229	229	230	236	232	229	233	236	238
Oregon	368	372	376	380	381	380	378	378	378	378
Utah	330	328	328	328	329	329	329	332	335	336
Washington	660	673	680	687	694	696	695	695	697	698
Wyoming	71	70	69	67	66	64	62	62	62	62

Table 6.—Enrollment in grades K–8 in public schools, by region and state, with projections: Fall 1993 to fall 2011—Continued

(In thousands)

Region and state	Projected								
	2003	2004	2005	2006	2007	2008	2009	2010	2011
United States	33,475	33,276	33,091	32,947	32,868	32,860	32,913	33,034	33,179
Northeast	5,734	5,668	5,604	5,549	5,507	5,480	5,459	5,437	5,421
Connecticut	391	385	379	374	369	367	365	364	364
Maine	143	142	142	141	142	143	143	143	143
Massachusetts	691	682	673	666	660	657	655	651	648
New Hampshire	144	143	142	142	142	143	144	143	143
New Jersey	952	943	934	926	919	915	912	911	911
New York	1,999	1,974	1,949	1,927	1,909	1,896	1,885	1,876	1,870
Pennsylvania	1,234	1,221	1,208	1,198	1,191	1,185	1,180	1,174	1,168
Rhode Island	109	108	106	105	104	104	104	103	103
Vermont	71	71	70	71	71	71	71	71	71
Midwest	7,453	7,392	7,334	7,289	7,259	7,246	7,238	7,237	7,240
Illinois	1,468	1,455	1,440	1,428	1,414	1,407	1,401	1,402	1,403
Indiana	706	702	697	693	691	688	686	685	683
Iowa	330	328	325	324	322	322	323	323	322
Kansas	322	321	321	321	322	323	324	326	328
Michigan	1,207	1,191	1,176	1,166	1,157	1,155	1,152	1,148	1,144
Minnesota	567	562	559	557	557	558	559	562	564
Missouri	643	639	635	630	629	630	631	632	633
Nebraska	196	195	195	196	197	197	198	199	200
North Dakota	72	72	72	72	73	73	74	74	74
Ohio	1,269	1,257	1,245	1,235	1,228	1,223	1,219	1,216	1,213
South Dakota	89	89	89	90	92	92	93	93	94
Wisconsin	584	581	578	577	577	578	579	580	581
South	12,238	12,184	12,128	12,078	12,043	12,021	12,022	12,067	12,117
Alabama	544	541	538	537	536	533	531	530	530
Arkansas	315	312	310	308	307	306	305	304	303
Delaware	82	82	82	81	81	80	80	80	79
District of Columbia	58	58	57	57	56	57	58	59	60
Florida	1,699	1,683	1,665	1,649	1,635	1,630	1,631	1,639	1,650
Georgia	1,077	1,076	1,076	1,076	1,076	1,074	1,074	1,079	1,083
Kentucky	451	445	443	440	437	434	431	429	427
Louisiana	541	538	535	534	532	531	532	533	535
Maryland	609	604	600	597	595	595	594	595	595
Mississippi	372	370	368	367	365	362	360	359	358
North Carolina	936	926	916	904	892	886	881	879	879
Oklahoma	424	420	416	413	412	413	414	417	420
South Carolina	471	471	467	463	460	459	458	457	457
Tennessee	680	679	678	676	675	673	671	672	672
Texas	2,941	2,947	2,952	2,957	2,965	2,974	2,994	3,029	3,064
Virginia	842	838	833	829	827	824	821	820	821
West Virginia	197	195	193	192	191	189	188	187	185
West	8,049	8,032	8,024	8,031	8,059	8,113	8,193	8,292	8,401
Alaska	98	99	99	100	102	104	105	107	109
Arizona	648	648	647	645	644	644	646	652	658
California	4,386	4,363	4,348	4,343	4,350	4,385	4,442	4,505	4,579
Colorado	518	518	519	519	520	521	524	527	530
Hawaii	139	139	141	143	145	147	148	150	152
Idaho	181	184	187	190	194	196	197	200	202
Montana	109	110	111	113	115	116	117	118	118
Nevada	254	253	252	249	246	245	244	245	247
New Mexico	241	243	246	250	254	257	260	263	267
Oregon	377	376	375	375	376	378	380	382	385
Utah	339	341	344	347	351	353	356	361	365
Washington	697	694	693	692	694	698	703	709	715
Wyoming	63	64	65	66	68	69	71	72	73

NOTE: Some data have been revised from previously published figures. Includes most kindergarten and some nursery school enrollment. Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys and State Public Elementary and Secondary Enrollment Model. (This table was prepared May 2001.)

Table 7.—Percent change in grades K–8 enrollment in public schools, by region and state, with projections: Fall 1993 to fall 2011

Region and state	Actual	Projected		
	1993 to 1999	1999 to 2005	2005 to 2011	1999 to 2011
United States	6.3	-1.2	0.3	-0.9
Northeast	6.5	-4.1	-3.3	-7.2
Connecticut	9.6	-6.1	-4.0	-9.9
Maine	-5.0	-4.9	1.0	-3.9
Massachusetts	9.4	-4.6	-3.8	-8.3
New Hampshire	7.8	-3.1	0.5	-2.6
New Jersey	13.1	-2.0	-2.5	-4.5
New York	5.9	-4.2	-4.0	-8.1
Pennsylvania	2.4	-4.3	-3.3	-7.4
Rhode Island	6.0	-6.5	-2.7	-9.0
Vermont	-3.4	-2.5	0.6	-1.9
Midwest	2.8	-2.9	-1.3	-4.1
Illinois	7.8	-1.5	-2.6	-4.0
Indiana	3.0	-0.3	-2.0	-2.3
Iowa	-3.5	-3.1	-0.9	-4.0
Kansas	-1.2	-1.5	2.1	0.5
Michigan	7.3	-5.5	-2.7	-8.0
Minnesota	0.6	-3.7	0.9	-2.8
Missouri	4.3	-2.1	-0.3	-2.4
Nebraska	-3.2	-0.9	2.5	1.6
North Dakota	-10.9	-3.7	2.8	-1.0
Ohio	0.5	-4.0	-2.6	-6.4
South Dakota	-12.4	-0.1	4.6	4.4
Wisconsin	0.1	-3.1	0.5	-2.6
South	6.6	-0.5	-0.1	-0.6
Alabama	0.6	-0.1	-1.6	-1.7
Arkansas	0.0	-2.5	-2.1	-4.5
Delaware	4.8	1.6	-2.5	-1.0
District of Columbia	-2.5	-4.8	5.0	-0.1
Florida	13.9	-3.5	-0.9	-4.4
Georgia	14.7	3.0	0.7	3.7
Kentucky	-1.9	-3.4	-3.6	-6.8
Louisiana	-6.7	-2.3	0.0	-2.3
Maryland	6.6	-1.2	-0.8	-1.9
Mississippi	-0.9	0.8	-2.9	-2.1
North Carolina	12.9	-2.0	-4.0	-6.0
Oklahoma	1.3	-6.9	0.8	-6.1
South Carolina	3.6	-3.6	-2.1	-5.6
Tennessee	5.5	2.0	-0.9	1.1
Texas	8.0	1.9	3.8	5.8
Virginia	6.5	2.0	-1.5	0.4
West Virginia	-5.7	-5.0	-4.4	-9.2
West	9.3	1.5	4.7	6.3
Alaska	2.1	3.8	10.0	14.1
Arizona	18.5	3.7	1.7	5.5
California	11.1	0.3	5.3	5.6
Colorado	10.1	2.4	2.2	4.7
Hawaii	1.2	5.6	8.4	14.4
Idaho	1.1	10.5	8.1	19.5
Montana	-7.9	3.5	6.3	10.1
Nevada	36.9	5.0	-1.9	2.9
New Mexico	1.0	7.5	8.6	16.7
Oregon	2.8	-1.0	2.8	1.7
Utah	-0.2	4.4	6.3	11.0
Washington	5.2	-0.2	3.2	2.9
Wyoming	-13.7	4.8	13.0	18.4

NOTE: Calculations are based on unrounded numbers. Includes most kindergarten and some nursery school enrollment. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys and State Public Elementary and Secondary Enrollment Model. (This table was prepared May 2001.)

Table 8.—Enrollment in grades 9–12 in public schools, by region and state, with projections: Fall 1993 to fall 2011

(In thousands)

Region and state	Actual							Projected		
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
United States	11,961	12,213	12,500	12,847	13,054	13,193	13,369	13,506	13,626	13,784
Northeast	2,168	2,192	2,235	2,277	2,311	2,326	2,355	2,392	2,432	2,480
Connecticut	128	131	134	138	141	145	150	154	158	162
Maine	60	57	58	58	59	60	60	61	61	61
Massachusetts	232	235	240	246	253	258	265	272	279	285
New Hampshire	49	50	52	54	56	58	60	61	63	64
New Jersey	308	312	317	325	329	333	335	341	351	362
New York	813	817	833	843	851	849	854	865	879	897
Pennsylvania	511	521	531	541	549	549	555	561	565	572
Rhode Island	39	40	40	41	42	42	43	43	44	45
Vermont	28	29	30	31	32	32	32	33	33	32
Midwest	2,941	2,999	3,064	3,134	3,151	3,156	3,175	3,182	3,186	3,193
Illinois	537	548	553	561	560	560	565	578	588	594
Indiana	287	290	293	294	294	292	289	287	285	287
Iowa	151	155	158	161	163	162	161	161	159	158
Kansas	128	132	134	138	141	145	146	145	144	143
Michigan	439	445	450	473	467	475	481	479	481	483
Minnesota	233	240	249	258	266	270	274	275	274	274
Missouri	244	250	254	257	261	263	265	268	268	269
Nebraska	82	84	87	89	91	91	91	91	90	89
North Dakota	35	36	37	38	38	38	38	37	36	35
Ohio	517	519	539	546	548	541	540	538	536	538
South Dakota	41	42	43	44	45	42	41	41	40	38
Wisconsin	248	259	267	274	278	279	281	283	284	284
South	4,150	4,247	4,346	4,462	4,541	4,586	4,650	4,693	4,731	4,780
Alabama	199	201	207	208	208	206	202	200	198	197
Arkansas	127	128	131	133	134	133	133	132	131	130
Delaware	29	30	31	33	33	33	33	33	33	34
District of Columbia	19	18	18	18	17	15	17	18	18	18
Florida	526	542	563	589	614	634	656	675	692	710
Georgia	325	336	345	356	365	372	379	385	392	400
Kentucky	188	191	192	190	195	191	190	188	186	185
Louisiana	213	214	217	218	213	210	209	207	204	201
Maryland	203	210	215	222	229	235	239	245	250	255
Mississippi	137	139	140	140	140	137	135	134	131	131
North Carolina	305	309	312	324	330	334	341	347	355	365
Oklahoma	163	167	171	175	179	181	180	178	176	173
South Carolina	177	180	182	185	187	187	183	183	185	186
Tennessee	237	241	243	248	240	241	252	252	252	253
Texas	927	957	991	1,029	1,059	1,077	1,096	1,108	1,118	1,130
Virginia	278	286	292	300	304	309	317	321	325	330
West Virginia	99	98	96	95	94	92	88	86	84	83
West	2,701	2,775	2,854	2,974	3,051	3,125	3,189	3,240	3,277	3,331
Alaska	32	33	34	36	36	38	39	40	40	41
Arizona	183	195	195	211	218	226	229	236	241	248
California	1,424	1,452	1,495	1,557	1,608	1,656	1,702	1,736	1,765	1,806
Colorado	165	171	177	186	193	198	202	205	208	211
Hawaii	49	50	52	51	53	53	53	52	52	52
Idaho	70	72	74	76	76	76	77	75	74	74
Montana	46	48	49	50	50	50	50	50	49	48
Nevada	61	65	69	74	78	82	86	90	95	100
New Mexico	96	98	100	103	96	96	96	98	97	96
Oregon	148	150	152	158	160	163	167	167	167	166
Utah	141	146	149	154	154	153	151	148	146	145
Washington	256	265	277	287	297	302	309	313	314	315
Wyoming	29	30	31	32	32	31	30	30	29	28

Table 8.—Enrollment in grades 9–12 in public schools, by region and state, with projections: Fall 1993 to fall 2011—Continued

(In thousands)

Region and state	2003	2004	2005	2006	Projected 2007	2008	2009	2010	2011
United States	13,957	14,218	14,445	14,569	14,562	14,426	14,265	14,096	13,991
Northeast	2,526	2,573	2,604	2,605	2,581	2,531	2,486	2,455	2,433
Connecticut	166	170	173	174	173	168	164	160	157
Maine	60	60	59	58	56	55	53	54	54
Massachusetts	292	299	303	303	300	292	285	281	279
New Hampshire	65	66	66	66	64	62	61	61	62
New Jersey	375	387	396	400	400	395	390	384	379
New York	912	931	944	944	936	920	905	893	883
Pennsylvania	578	582	586	583	575	564	555	550	547
Rhode Island	46	47	47	47	47	45	44	43	42
Vermont	32	32	31	31	30	29	29	29	30
Midwest	3,205	3,242	3,279	3,296	3,280	3,232	3,189	3,153	3,129
Illinois	605	620	636	647	653	648	639	628	616
Indiana	292	298	305	308	308	306	303	300	298
Iowa	157	158	159	160	159	156	154	152	151
Kansas	142	142	142	142	140	140	139	139	139
Michigan	486	496	503	505	500	486	475	469	465
Minnesota	272	273	273	272	270	265	262	259	258
Missouri	270	272	276	280	278	275	270	266	265
Nebraska	87	87	87	87	86	85	85	85	85
North Dakota	34	33	33	32	31	31	30	31	31
Ohio	540	544	548	548	544	535	527	521	517
South Dakota	37	36	36	35	34	34	34	34	35
Wisconsin	283	283	282	281	278	274	271	269	269
South	4,836	4,920	4,996	5,050	5,063	5,049	5,014	4,945	4,900
Alabama	198	202	204	204	203	203	203	202	202
Arkansas	130	132	134	134	133	131	130	128	128
Delaware	34	34	34	35	35	35	35	35	35
District of Columbia	19	19	20	20	20	20	19	18	18
Florida	722	740	754	762	765	755	741	722	707
Georgia	410	424	433	439	443	446	447	444	442
Kentucky	186	189	187	187	185	182	182	180	178
Louisiana	198	197	196	195	195	195	193	191	189
Maryland	259	266	269	270	268	264	261	259	258
Mississippi	131	133	136	137	137	138	138	137	136
North Carolina	377	389	399	406	409	404	398	388	379
Oklahoma	172	172	173	173	171	168	164	160	159
South Carolina	189	186	189	190	188	188	185	183	182
Tennessee	254	258	262	266	268	269	270	268	267
Texas	1,139	1,155	1,173	1,190	1,203	1,214	1,213	1,199	1,190
Virginia	335	344	352	358	358	357	357	354	353
West Virginia	82	82	82	82	81	80	79	78	78
West	3,390	3,483	3,565	3,617	3,638	3,614	3,577	3,544	3,529
Alaska	41	42	42	43	42	42	41	41	42
Arizona	255	263	272	280	286	288	286	281	277
California	1,848	1,912	1,966	1,997	2,011	1,984	1,948	1,925	1,908
Colorado	214	218	222	225	227	227	227	225	224
Hawaii	52	53	54	53	52	53	53	54	55
Idaho	74	76	76	77	77	79	81	82	84
Montana	48	47	46	46	45	45	45	46	48
Nevada	105	112	119	125	130	131	130	126	122
New Mexico	96	97	98	98	97	99	100	102	104
Oregon	167	169	171	171	170	168	166	165	166
Utah	145	146	148	150	150	152	153	153	154
Washington	316	321	325	328	327	324	321	318	317
Wyoming	27	26	26	25	24	25	25	26	27

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys and State Public Elementary and Secondary Enrollment Model. (This table was prepared May 2001.)

Table 9.—Percent change in grades 9–12 enrollment in public schools, by region and state, with projections: Fall 1993 to fall 2011

Region and state	Actual	Projected		
	1993 to 1999	1999 to 2005	2005 to 2011	1999 to 2011
United States	11.8	8.0	-3.1	4.7
Northeast	8.6	10.6	-6.6	3.3
Connecticut	17.6	15.2	-9.3	4.6
Maine	0.0	-2.4	-7.8	-9.9
Massachusetts	14.2	14.1	-7.9	5.1
New Hampshire	21.9	9.5	-5.8	3.1
New Jersey	9.0	18.1	-4.4	13.0
New York	5.0	10.5	-6.5	3.4
Pennsylvania	8.5	5.6	-6.5	-1.3
Rhode Island	11.1	9.7	-10.1	-1.3
Vermont	15.6	-2.7	-4.1	-6.7
Midwest	7.9	3.3	-4.6	-1.4
Illinois	5.3	12.4	-3.1	8.9
Indiana	1.0	5.5	-2.4	2.9
Iowa	7.2	-1.3	-5.3	-6.5
Kansas	14.4	-2.9	-1.9	-4.8
Michigan	9.5	4.6	-7.6	-3.3
Minnesota	17.3	-0.1	-5.6	-5.8
Missouri	8.7	3.9	-4.0	-0.2
Nebraska	11.7	-4.8	-1.8	-6.5
North Dakota	8.0	-13.9	-4.8	-18.0
Ohio	4.4	1.4	-5.6	-4.3
South Dakota	2.2	-14.2	-1.0	-15.0
Wisconsin	13.3	0.3	-4.6	-4.3
South	12.0	7.4	-1.9	5.4
Alabama	1.7	0.7	-0.8	-0.1
Arkansas	5.3	0.3	-4.4	-4.1
Delaware	12.6	5.4	1.7	7.1
District of Columbia	-10.2	15.9	-9.6	4.7
Florida	24.8	15.0	-6.3	7.7
Georgia	16.6	14.4	1.9	16.6
Kentucky	0.9	-1.3	-4.7	-5.9
Louisiana	-2.1	-5.8	-3.6	-9.2
Maryland	17.9	12.3	-3.9	7.9
Mississippi	-1.4	0.2	0.0	0.2
North Carolina	11.8	16.9	-5.0	11.0
Oklahoma	10.6	-4.3	-8.0	-12.0
South Carolina	3.6	3.1	-3.7	-0.7
Tennessee	6.5	4.2	1.8	6.0
Texas	18.2	7.0	1.5	8.6
Virginia	13.9	10.9	0.3	11.3
West Virginia	-10.4	-6.7	-5.7	-12.0
West	18.1	11.8	-1.0	10.6
Alaska	19.9	9.4	-0.6	8.8
Arizona	25.1	18.9	1.7	20.9
California	19.5	15.5	-2.9	12.1
Colorado	22.0	10.0	1.3	11.3
Hawaii	7.9	1.9	2.9	4.8
Idaho	9.7	-0.1	10.3	10.3
Montana	8.0	-7.9	3.0	-5.1
Nevada	41.5	38.5	2.4	41.9
New Mexico	-0.1	2.1	6.4	8.6
Oregon	12.2	2.4	-2.9	-0.6
Utah	6.8	-1.7	3.7	1.9
Washington	20.9	5.2	-2.4	2.7
Wyoming	3.2	-15.5	4.2	-11.9

NOTE: Calculations are based on unrounded numbers. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys and State Public Elementary and Secondary Enrollment Model. (This table was prepared May 2001.)

Chapter 2

Enrollment in Degree-Granting Institutions

Overall enrollment in degree-granting institutions[*] is expected to rise between 1999 and the year 2011. Changes in age-specific enrollment rates and college-age populations will affect enrollment levels over the next 12 years (figures 13 and 14). The most important factor in the projected rise of college enrollment is the projected increase of 17 percent in the traditional college-age population of 18- to 24-year-olds from 1999 to 2011 (appendix table B4). The 25- to 29-year-old population is projected to decrease by 5 percent between 1999 and 2002, and then increase by 15 percent between 2002 and 2011, for a net increase of 10 percent. The 30- to 34-year-old population will decrease by 8 percent between 1999 and 2007 and then increase 8 percent by 2011. The 35- to 44-year-old population will remain stable between 1999 and 2000, and then decrease by 13 percent between 2000 and 2011. The increases in the younger population are expected to more than offset the loss of students from the older populations, thereby contributing to the increases in college enrollment over the projection period. The enrollment projections do not take into account such factors as the cost of a college education, the economic value of an education, and the impact of distance learning due to technological changes. These factors may produce changes in enrollment levels. Projections of college enrollment that have been produced over the past 6 years are more accurate than projections of doctor's degrees, but less accurate than projections of public elementary and secondary enrollment that NCES has published over the same time period. For more information, see table A2, page 97.

Total College Enrollment

College enrollment increased from 12.5 million in 1986 to 14.5 million in 1992. Then it decreased to 14.3 million in 1993 and remained fairly stable through 1995. Thereafter, it increased to 14.8 million in 1999 (table 10 and figure 15). Under the middle alternative, college enrollment is projected to rise to 17.7 million by the year 2011, an increase of 20 percent from 1999.

Under the low alternative, college enrollment is projected to increase from 14.8 million in 1999 to 17.2 million by the year 2011, an increase of 16 percent over the projection period.

Under the high alternative, college enrollment is expected to increase from 14.8 million in 1999 to 18.2 million by the year 2011, an increase of 23 percent over the projection period.

Enrollment, by Sex of Student

Women played a major role in the increase of enrollment between 1986 and 1999. The enrollment of women in college increased from 6.6 million in 1986 to 8.3 million in 1999, a 25 percent increase over the period (figure 17). Under the middle alternative, enrollment of women is expected to increase to 10.3 million by the year 2011, an increase of 24 percent from 1999. As a share of total college enrollment, women were 56 percent of all college students in 1999 compared with 53 percent in 1986. Women's share of college enrollment will be 58 percent in the year 2011.

The enrollment of men in college increased from 5.9 million in 1986 to 6.5 million in 1992, before decreasing to 6.3 million in 1995. Thereafter, it increased to 6.5 million in 1999. Under the middle alternative, enrollment of men is expected to increase to 7.4 million by the year 2011, a 14 percent increase from 1999.

Enrollment, by Attendance Status

Full-time enrollment increased from 7.1 million in 1986 to 8.8 million in 1999 (figure 19). This is an increase of 23 percent over the period. Under the middle alternative, full-time enrollment is expected to increase another 22 percent to 10.7 million by the year 2011.

Part-time enrollment increased from 5.4 million in

---

[*] This term applies mainly to those institutions that provide study beyond secondary school and that offer programs terminating in an associate, baccalaureate, or higher degree.

1986 to 6.0 million in 1999, an increase of 12 percent over the period. Under the middle alternative, part-time enrollment is expected to increase to 6.9 million by the year 2011, an increase of 16 percent over the projection period.

Enrollment, by Age

The alternative projections of higher education enrollment by age, sex, and attendance status are shown in tables 11A and 11B (middle alternative), table 12 (low alternative), and table 13 (high alternative). Projections of college attendance rates appear in appendix table A1.1. These projections are based on age-specific enrollment data from the Bureau of the Census and enrollment data from NCES.

Under the middle alternative, the period from 1991 to 2011 will be one of change in the age distribution of college students. In contrast to recent patterns, younger students are expected to become more prevalent on college campuses. The enrollment of students who are 18- to 24-years old increased from 8.1 million in 1991 to 8.8 million in 1999, an increase of 9 percent (tables 11A and 11B and figure 31). This number is expected to increase to 10.8 million by the year 2011, an increase of 22 percent from 1999. As a result, the proportion of students who are 18- to 24-years old, which increased from 56 percent in 1991 to 60 percent in 1999, is projected to be 61 percent by the year 2011.

The enrollment of students who are 25 years and over decreased from 6.1 million in 1991 to an estimated 5.8 million in 1999, a decrease of 5 percent. This number is projected to be 6.7 million in 2011, an increase of 15 percent. The proportion of students 25 years old and over decreased from 43 percent in 1991 to 39 percent in 1999. This proportion is projected to be 38 percent by the year 2011.

Enrollment, by Control of Institution

Enrollment in public institutions grew from 9.7 million in 1986 to 11.4 million in 1992, and then decreased to 11.1 million in 1995 followed by a rise to 11.3 million in 1999, for a net increase of 16 percent over the period (figure 21). Under the middle alternative, public enrollment is expected to increase to 13.6 million by 2011, an increase of 20 percent over the projection period.

Enrollment in private institutions, which include not-for-profit and for-profit institutions, increased from 2.8 million in 1986 to 3.5 million in 1999, an increase of 25 percent over the period. Under the middle alternative, private enrollment is expected to increase to 4.1 million by 2011, an increase of 18 percent over the projection period.

Enrollment, by Type and Control of Institution

Enrollment in public 4-year institutions increased from 5.3 million in 1986 to 6.0 million in 1999, an increase of 13 percent increase over the period (table 15). Under the middle alternative, this enrollment is expected to rise to 7.3 million by the year 2011, a 21 percent increase over the projection period.

Enrollment in public 2-year institutions rose from 4.4 million in 1986 to 5.3 million in 1999, an increase of 21 percent over the period (table 16). Under the middle alternative, enrollment in public 2-year institutions is expected to rise to 6.3 million by the year 2011, an 18 percent increase over the projection period.

Enrollment in private 4-year institutions increased from 2.5 million in 1986 to 3.2 million in 1999, an increase of 28 percent increase over the period (table 17). Under the middle alternative, this enrollment is expected to rise to 3.8 million by the year 2011, an 18-percent increase over the projection period.

Enrollment in private 2-year institutions decreased from 266,000 in 1986 to 253,000 in 1999, a decrease of 5 percent over the period (table 18). Under the middle alternative, enrollment in private 2-year institutions is expected to rise to 305,000 by the year 2011, a 21 percent increase over the projection period.

Enrollment, by Level

Undergraduate enrollment increased from 10.8 million in 1986 to 12.7 million in 1999, a 17-percent increase over the period (table 19 and figure 25). Under the middle alternative, undergraduate enrollment is expected to increase to 15.3 million by the year 2011, a 21 percent increase over the projection period.

Graduate enrollment rose from 1.4 million in 1986 to 1.8 million in 1999, a 26-percent increase over the period (table 20 and figure 27). Under the middle alternative, graduate enrollment is expected to increase to 2.0 million by the year 2011, a 13 percent increase over the projection period.

First-professional enrollment increased from 270,000 in 1986 to 303,000 in 1999, a 12 percent increase over the period (table 21 and figure 27). Under the middle alternative, first-professional enrollment is expected to increase to 342,000 by 2011. This represents a 13 percent increase from 1999.

Full-Time-Equivalent Enrollment

Full-time-equivalent enrollment increased from 9.1 million in 1986 to 10.9 million in 1999, a 21 percent increase over the period (table 22 and figure 29). Under the middle alternative, full-time-equivalent enrollment is expected to increase to 13.2 million by the year 2011, a 21 percent increase over the projection period.

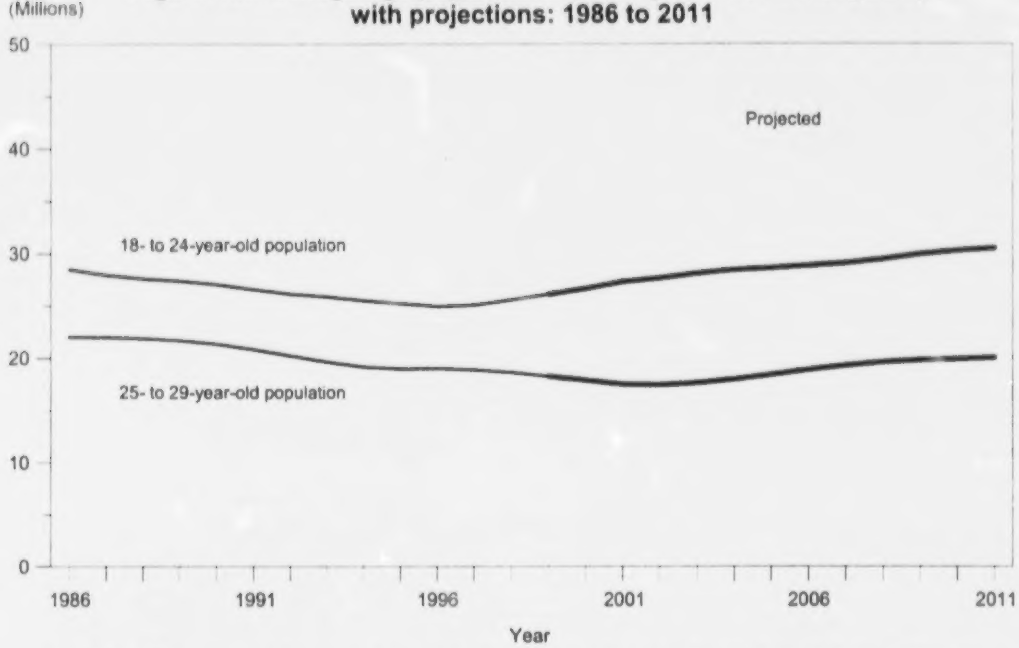
Alternative Projections

College enrollment projections were based on projected enrollment rates, by age and sex, which were then applied to population projections by age and sex developed by the Bureau of the Census. The middle series population projections, which assume middle fertility and yearly net migration, were used.

Three sets of projections are presented for enrollment in degree-granting institutions to indicate a range of possible outcomes. Each set of projections is based on alternative assumptions. The middle alternative is based on the base scenario of the economy developed by the company, DRI•WEFA, Inc., for the projections of disposable income and unemployment rates. Under the middle alternative, the higher education enrollment model interprets the college enrollment decision as a static, short-term economic decision, i.e., potential consumers for higher education weigh the economic costs before making a decision to study or work. Thus the model assumes that a representative student gives greater importance to current earnings potential over lifetime earning potential. The model has two explanatory variables, the unemployment rate and real disposable income. The unemployment rate serves as a proxy for the attractiveness of the current working environment. A weak labor market increases the attractiveness of a college education. Real disposable income captures a student's ability to afford the costs of attending college. These relationships are assumed through 2011. For more information, see appendix A, section A.1.

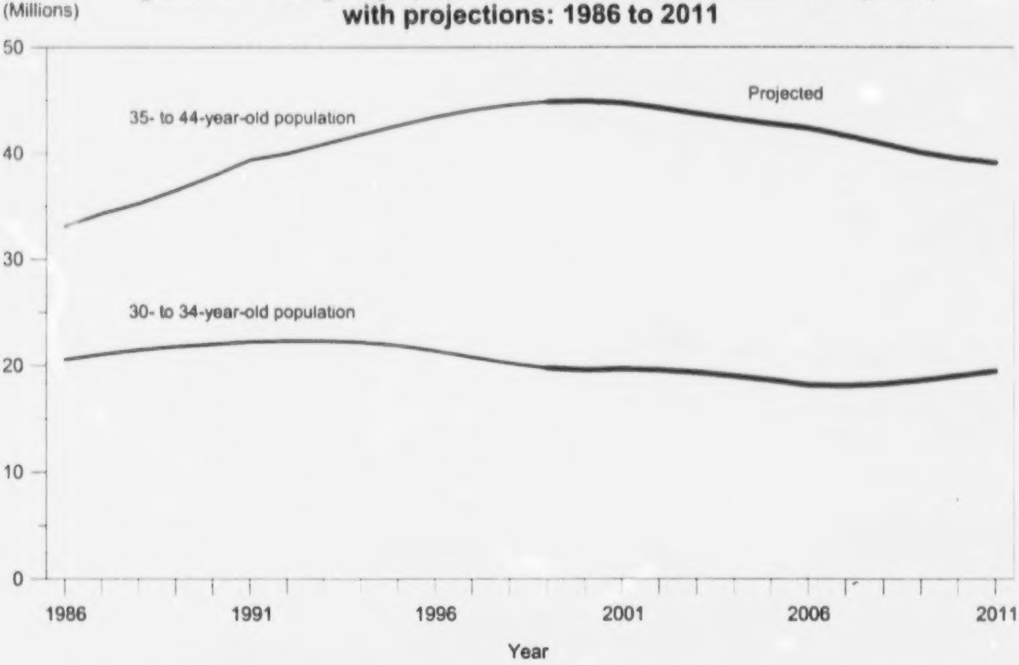
The low and high alternatives incorporate past errors of projections of college enrollment to provide other possible outcomes.

Figure 13.--College-age populations (18-24 years and 25-29 years), with projections: 1986 to 2011



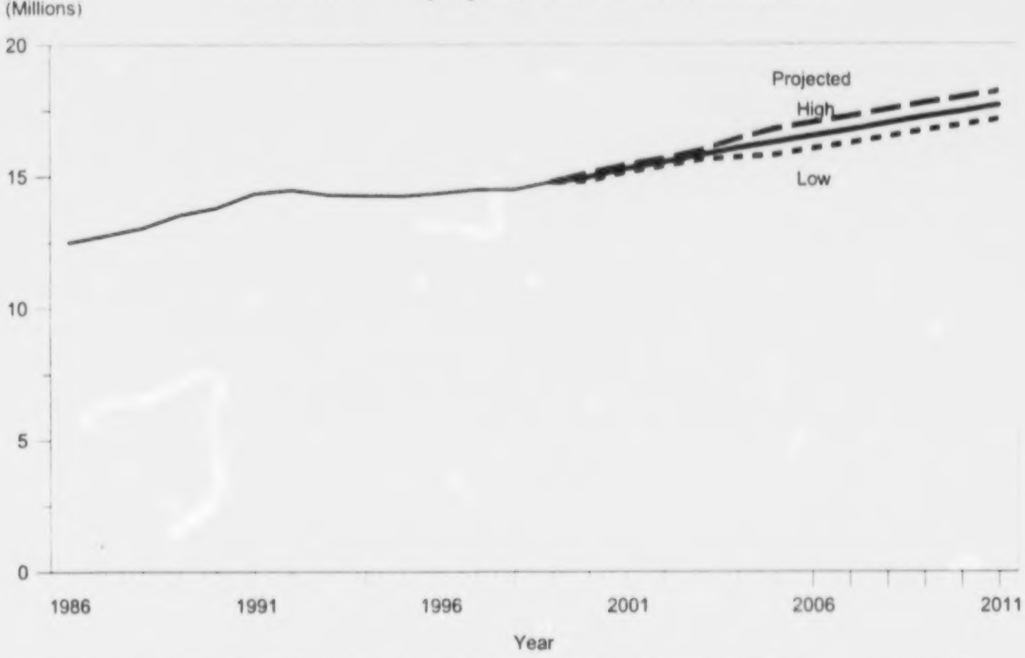
SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092, 1095, and "National Population Estimates," June 1999, and "Annual Projections of the Total Resident Population: 1999 to 2100," January 2000.

Figure 14.--College-age populations (30-34 years and 35-44 years), with projections: 1986 to 2011



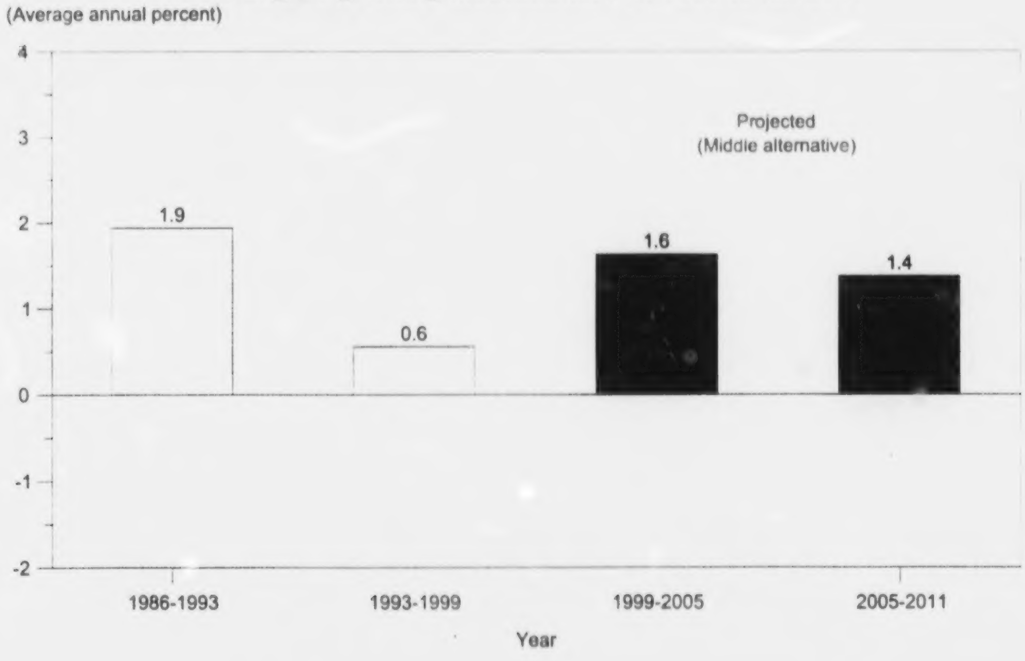
SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092, 1095, and "National Population Estimates," June 1999, and "Annual Projections of the Total Resident Population: 1999 to 2100," January 2000.

Figure 15.--Enrollment in degree-granting institutions with alternative projections: Fall 1986 to fall 2011



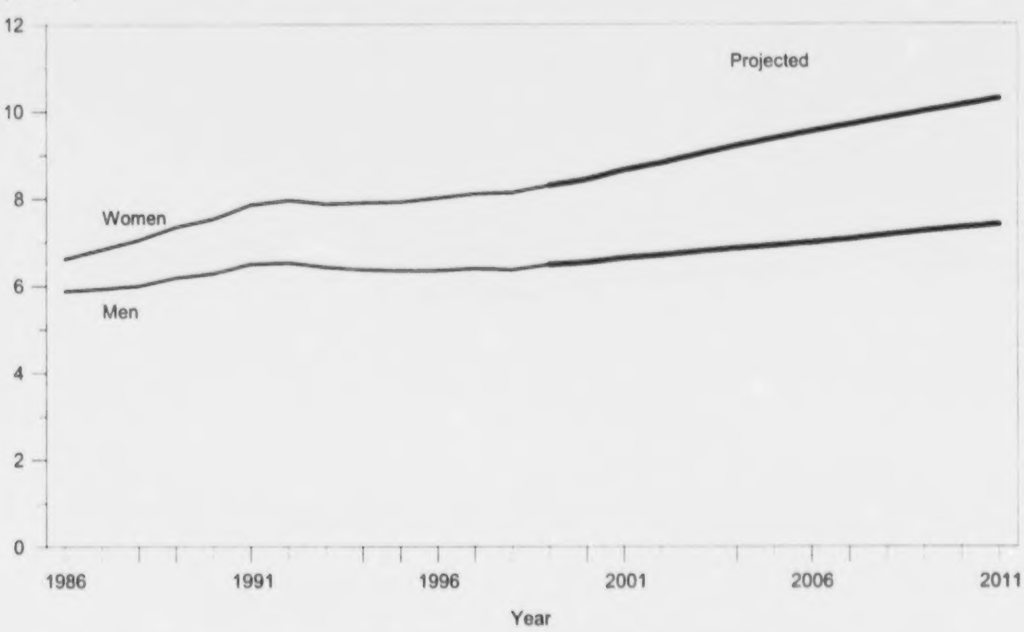
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 16.--Average annual growth rates for total enrollment in degree-granting institutions: Fall 1986 to fall 2011



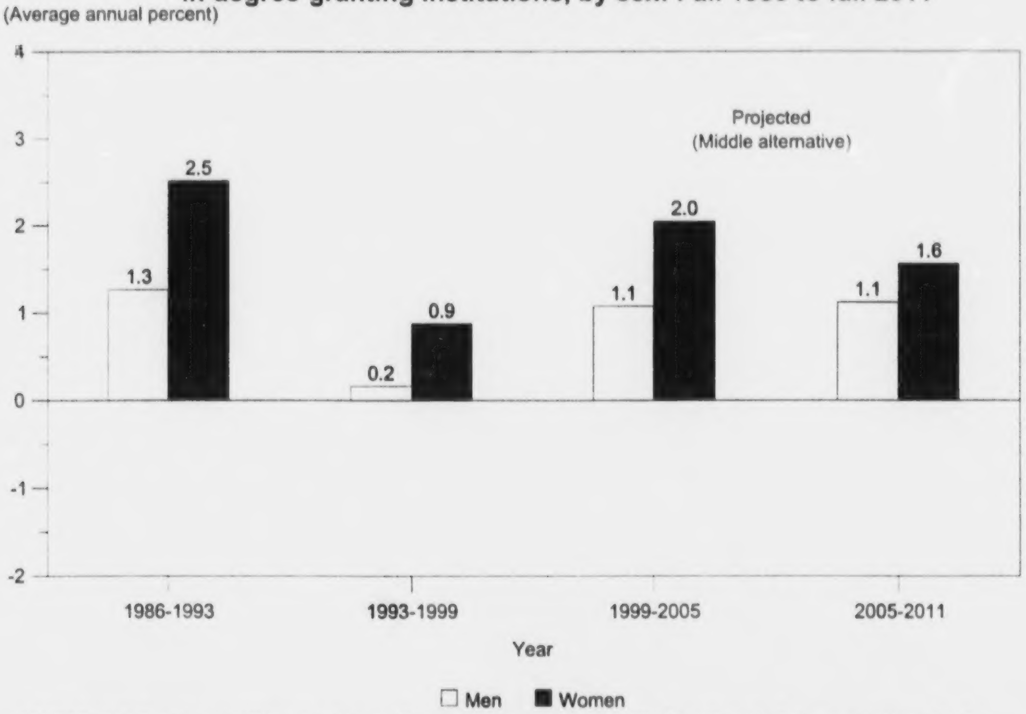
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 17.--Enrollment in degree-granting institutions, by sex, with middle alternative projections: Fall 1986 to fall 2011



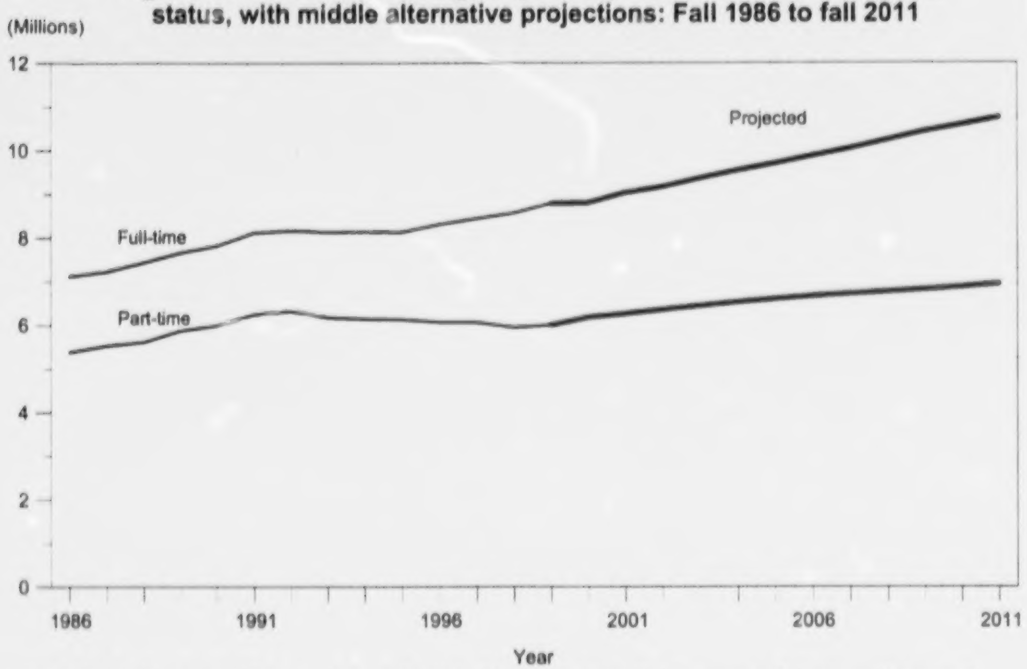
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 18.--Average annual growth rates for total enrollment in degree-granting institutions, by sex: Fall 1986 to fall 2011



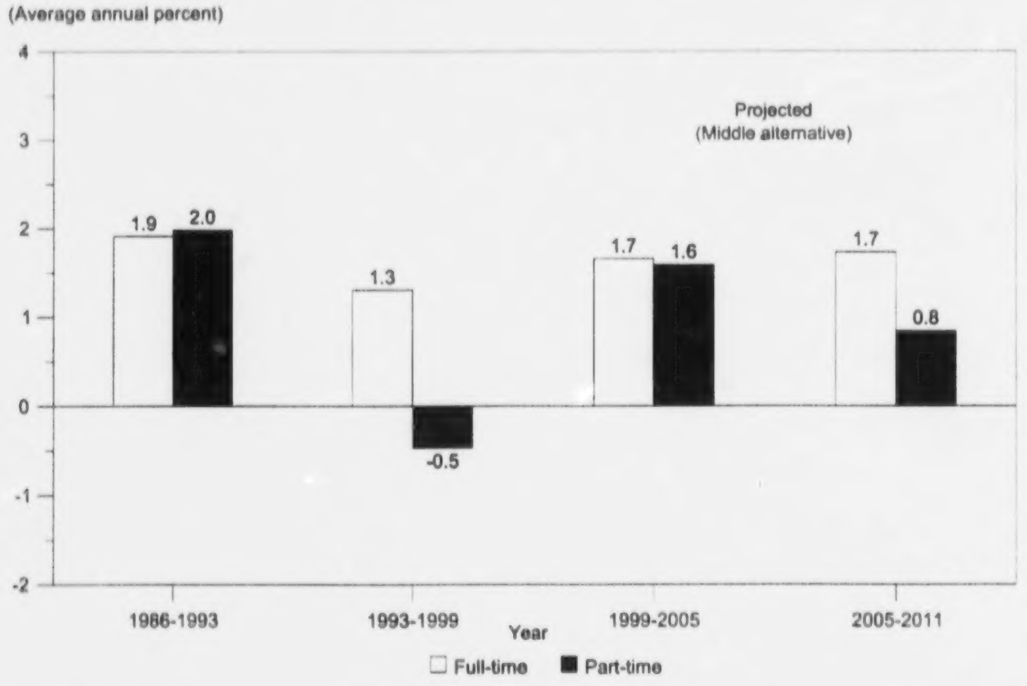
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 19.--Enrollment in degree-granting institutions, by attendance status, with middle alternative projections: Fall 1986 to fall 2011



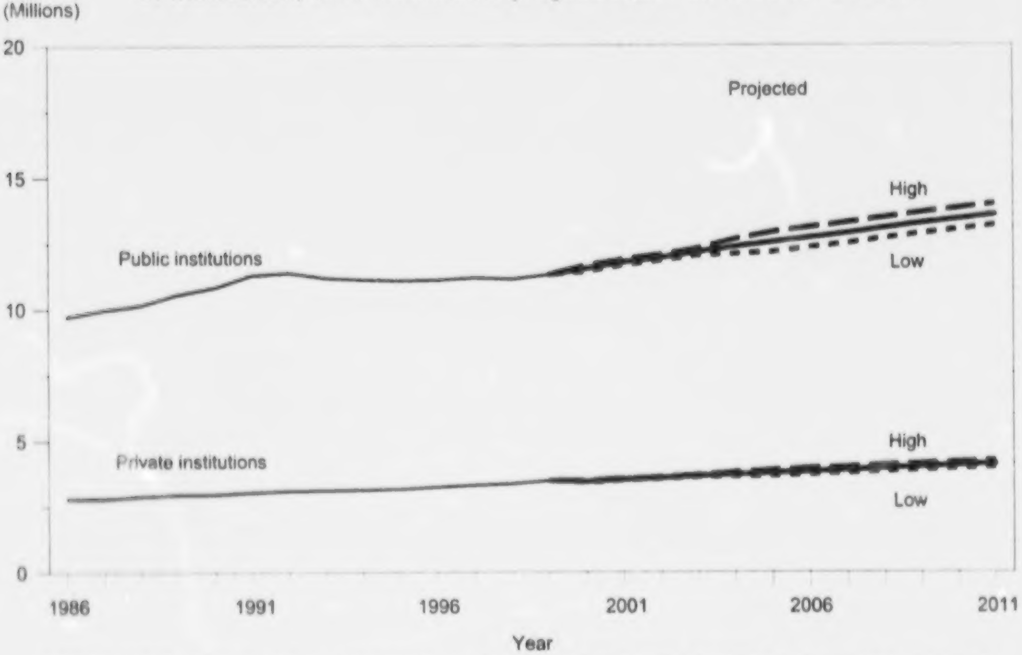
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 20.--Average annual rates of change for total enrollment in degree-granting institutions, by attendance status: Fall 1986 to fall 2011



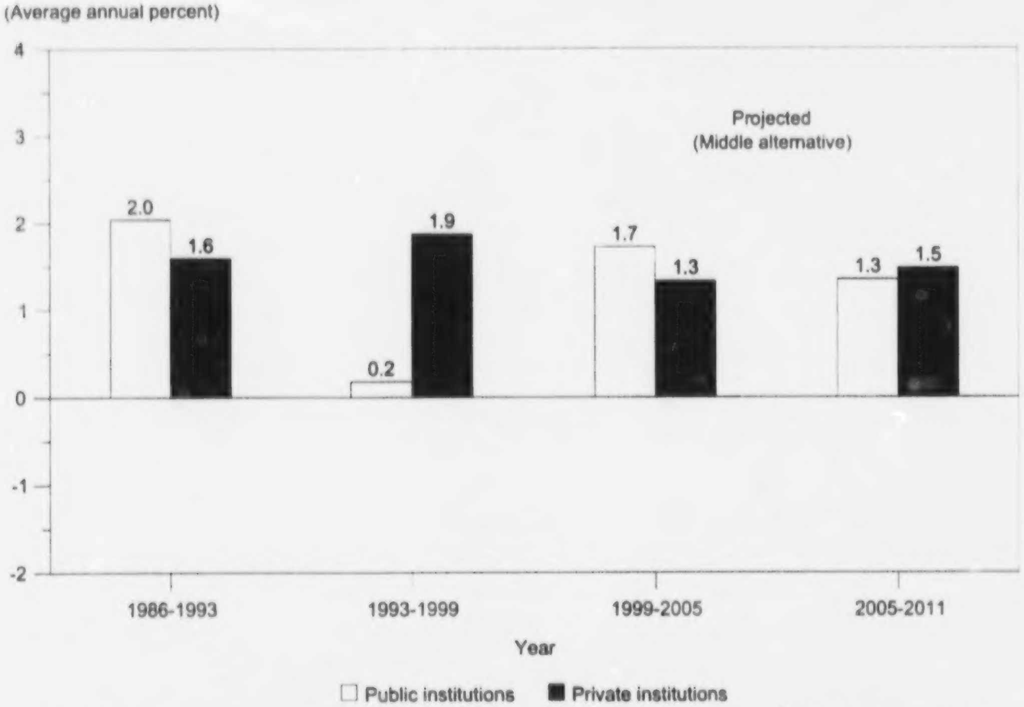
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 21.--Enrollment in degree-granting institutions, by control of institution, with alternative projections: Fall 1986 to fall 2011



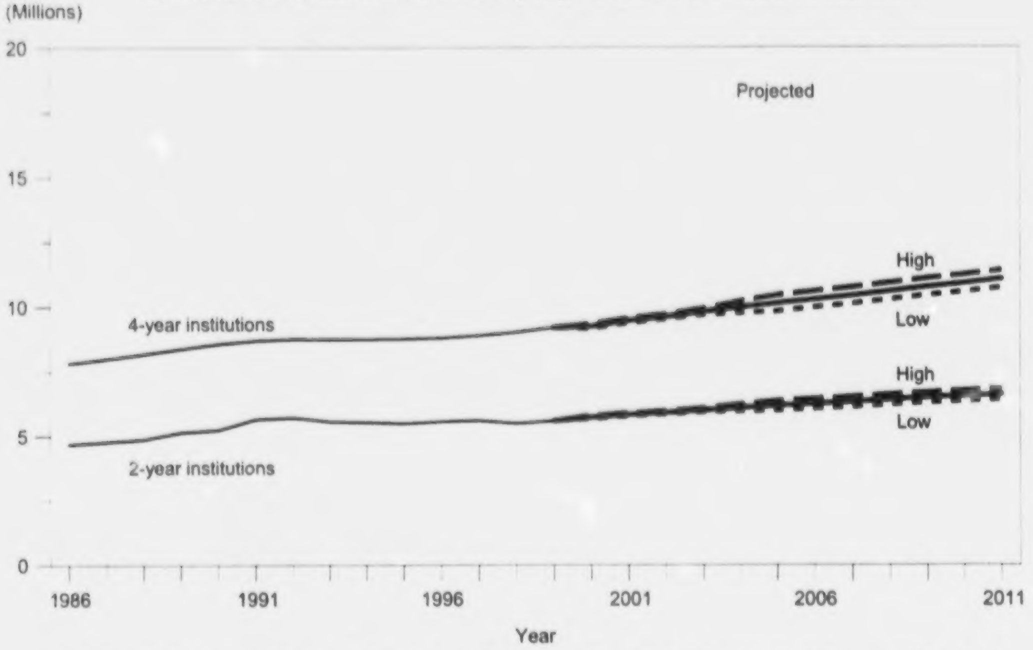
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 22.--Average annual growth rates for total enrollment in degree-granting institutions, by control of institution: Fall 1986 to fall 2011



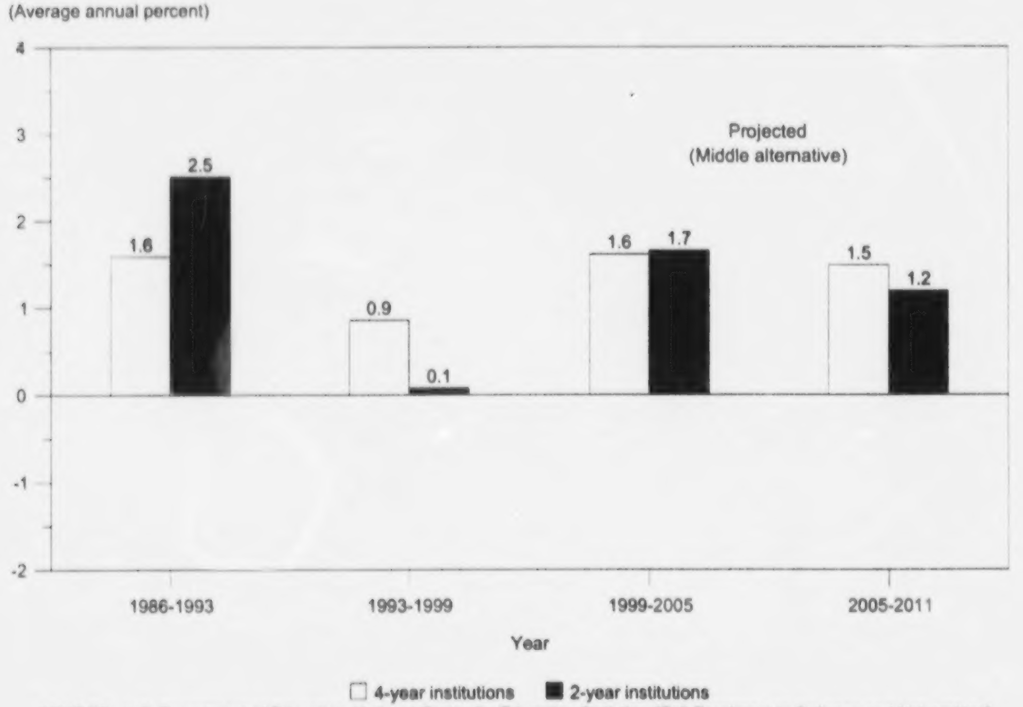
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 23.--Enrollment in degree-granting institutions, by type of institution, with alternative projections: Fall 1986 to fall 2011



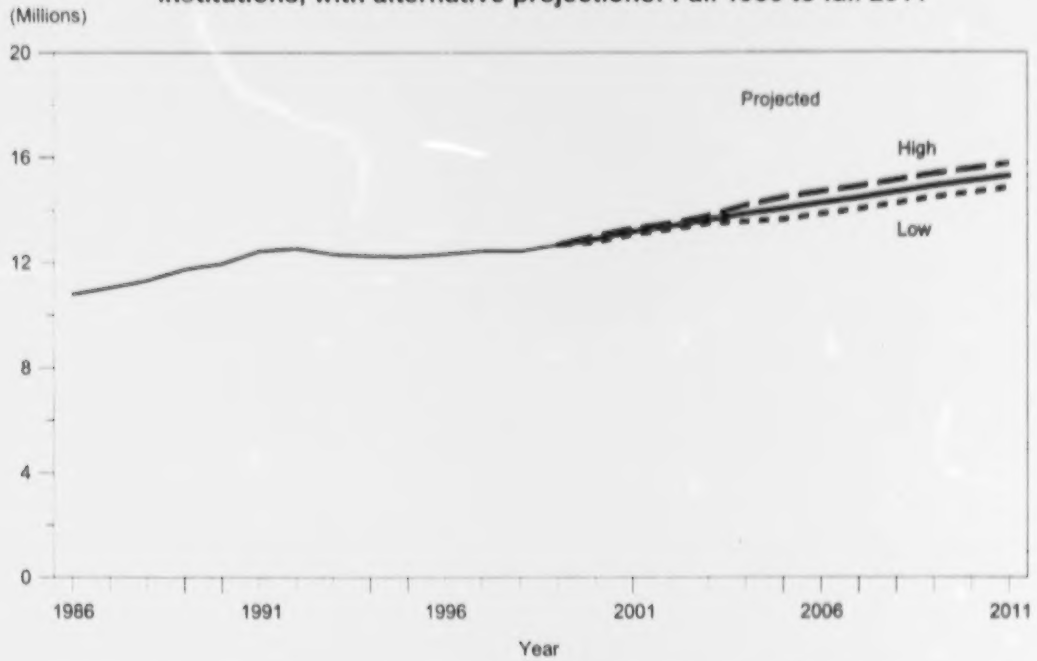
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 24.--Average annual growth rates for total enrollment in degree-granting institutions, by type of institution: Fall 1986 to fall 2011



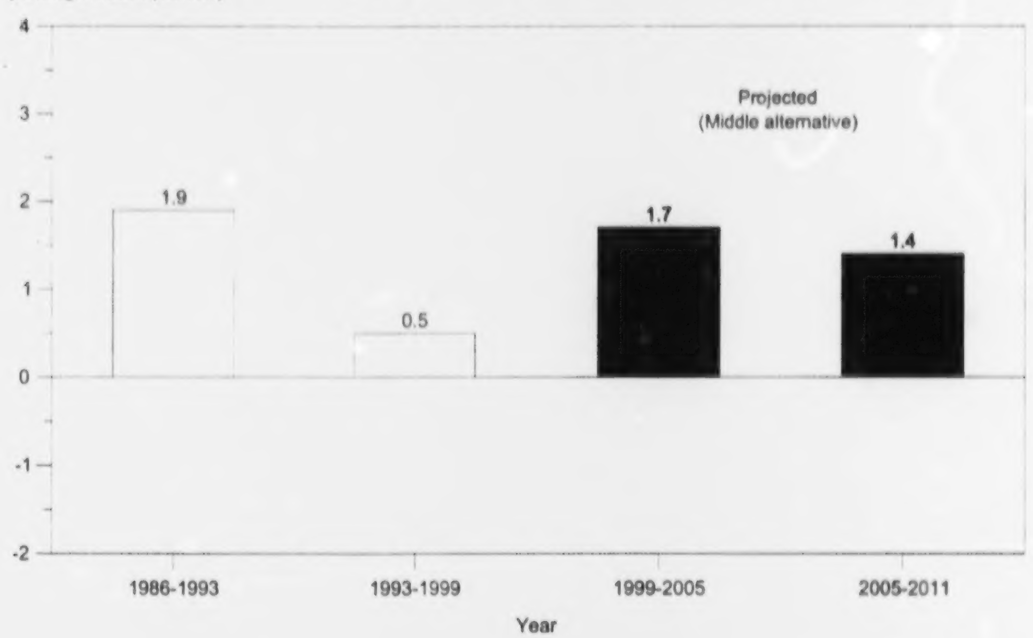
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 25.--Undergraduate enrollment in degree-granting institutions, with alternative projections: Fall 1986 to fall 2011



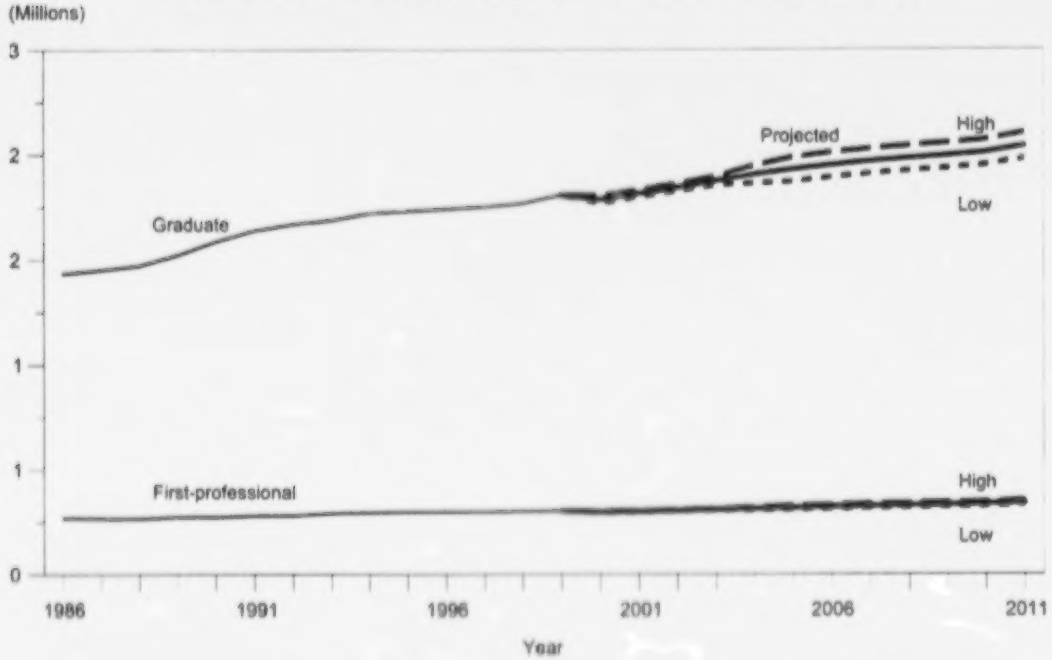
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 26.--Average annual growth rates for undergraduate enrollment in degree-granting institutions: Fall 1986 to fall 2011



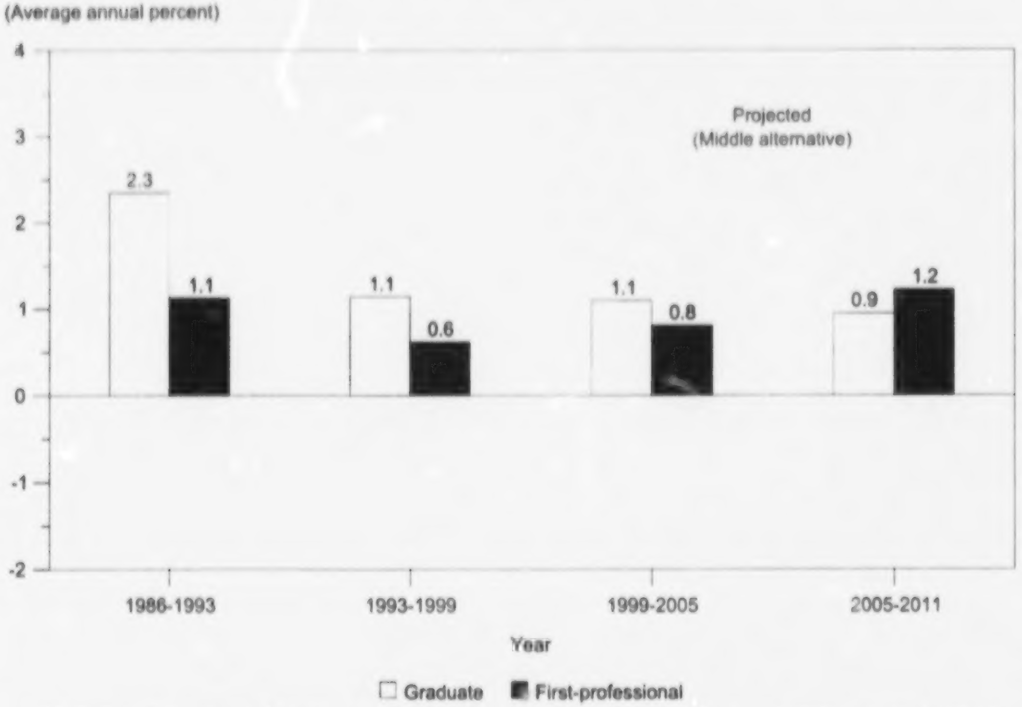
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 27.--Postbaccalaureate enrollment in degree-granting institutions, with alternative projections: Fall 1986 to fall 2011



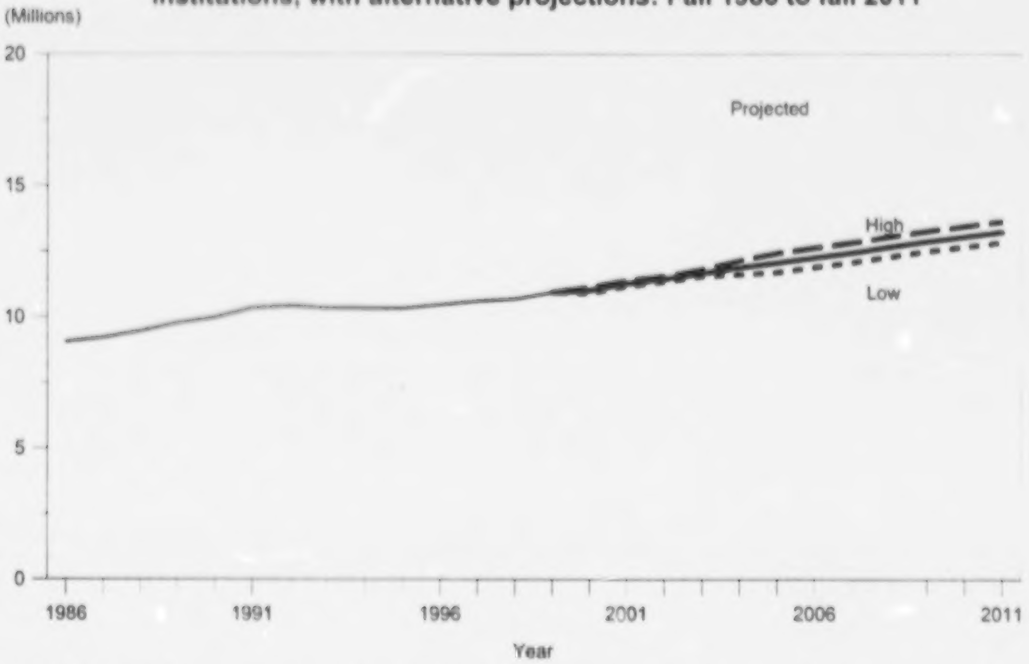
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 28.--Average annual growth rates for postbaccalaureate enrollment in degree-granting institutions: Fall 1986 to fall 2011



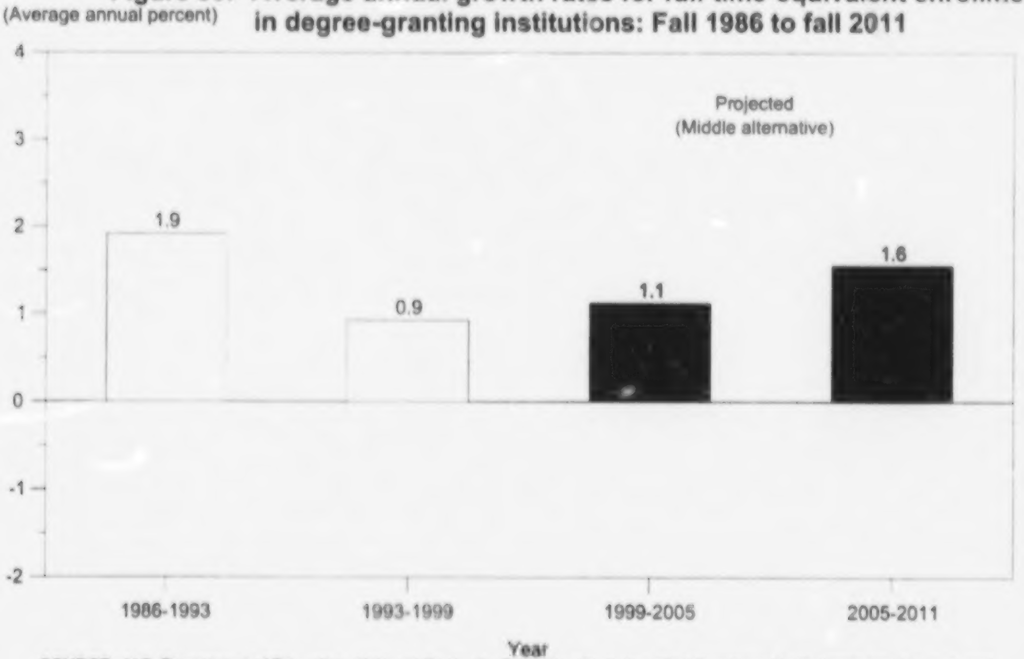
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 29.--Full-time-equivalent enrollment in degree-granting institutions, with alternative projections: Fall 1986 to fall 2011



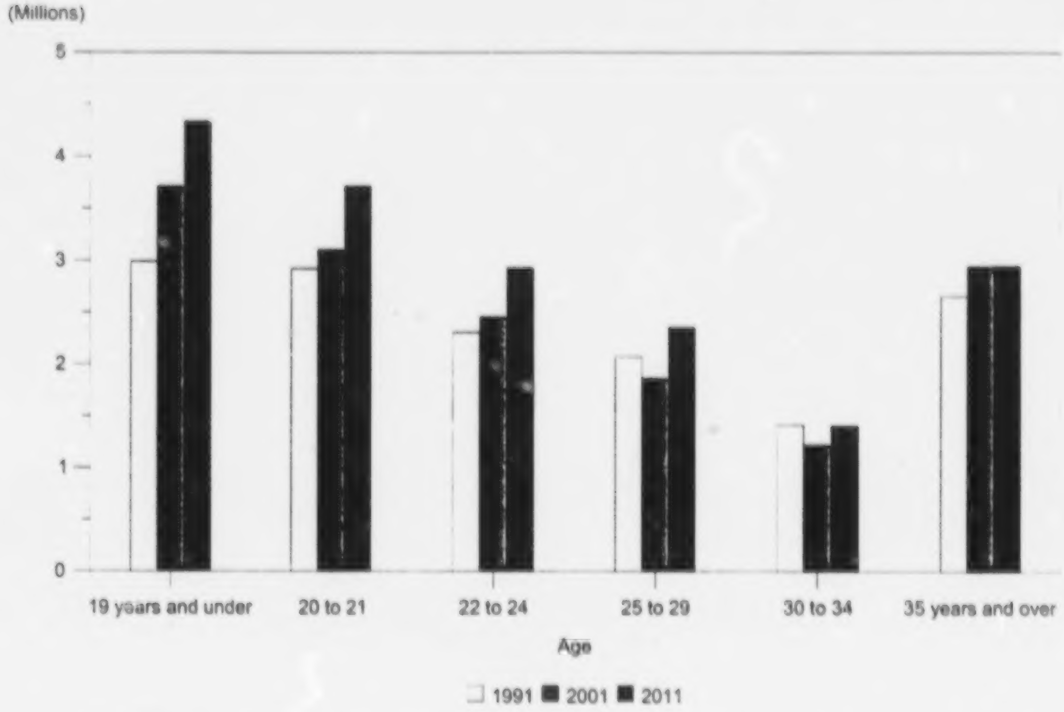
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 30.--Average annual growth rates for full-time-equivalent enrollment in degree-granting institutions: Fall 1986 to fall 2011



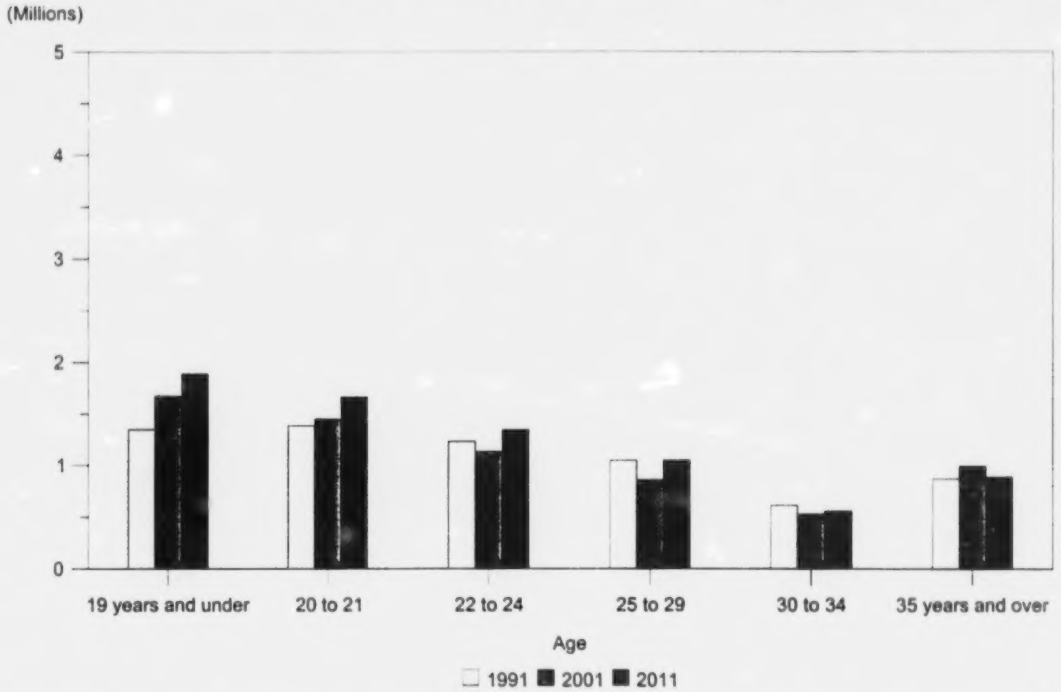
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 31.--Enrollment in degree-granting institutions, by age group, with middle alternative projections: Fall 1991, 2001, and 2011



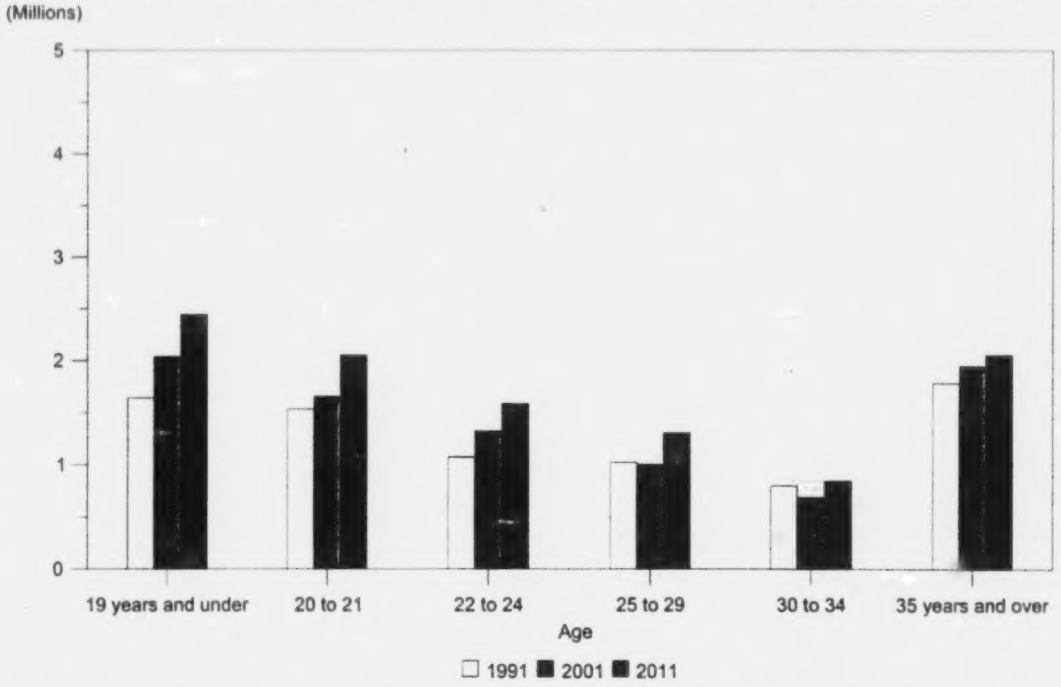
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 32.--Enrollment of men in degree-granting institutions, by age group, with middle alternative projections: Fall 1991, 2001, and 2011



SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Figure 33.--Enrollment of women in degree-granting institutions, by age group, with middle alternative projections: Fall 1991, 2001, and 2011



SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model.

Table 10.—Total enrollment in all degree-granting institutions, by sex, attendance status, and control of institution, with alternative projections: Fall 1986 to fall 2011

(In thousands)

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
1986	12,505	5,885	6,620	7,120	5,384	9,715	2,790
1987	12,767	5,932	6,835	7,231	5,536	9,973	2,793
1988	13,055	6,002	7,053	7,437	5,618	10,161	2,894
1989	13,539	6,190	7,349	7,661	5,878	10,578	2,961
1990	13,819	6,284	7,535	7,821	5,998	10,845	2,974
1991	14,359	6,502	7,857	8,115	6,244	11,310	3,049
1992	14,486	6,524	7,963	8,161	6,325	11,385	3,103
1993	14,305	6,427	7,877	8,128	6,177	11,189	3,116
1994	14,279	6,372	7,907	8,138	6,141	11,134	3,145
1995	14,262	6,343	7,919	8,129	6,133	11,092	3,169
1996	14,368	6,353	8,015	8,303	6,065	11,120	3,247
1997	14,502	6,396	8,106	8,438	6,064	11,196	3,306
1998	14,507	6,369	8,138	8,563	5,944	11,138	3,369
1999	14,791	6,491	8,301	8,786	6,005	11,309	3,482
			Middle alternative projections				
2000	14,979	6,538	8,441	8,797	6,182	11,535	3,444
2001	15,300	6,644	8,656	9,035	6,265	11,775	3,525
2002	15,527	6,708	8,819	9,170	6,357	11,947	3,580
2003	15,812	6,786	9,026	9,366	6,446	12,161	3,651
2004	16,074	6,862	9,212	9,544	6,530	12,360	3,714
2005	16,296	6,922	9,374	9,696	6,600	12,527	3,769
2006	16,533	6,991	9,542	9,869	6,664	12,706	3,827
2007	16,754	7,066	9,688	10,039	6,715	12,872	3,881
2008	17,005	7,159	9,846	10,239	6,766	13,063	3,943
2009	17,249	7,252	9,997	10,432	6,816	13,246	4,002
2010	17,457	7,325	10,132	10,586	6,871	13,402	4,055
2011	17,688	7,401	10,287	10,747	6,942	13,573	4,115
			Low alternative projections				
2000	14,829	6,473	8,357	8,709	6,120	11,420	3,410
2001	15,162	6,584	8,578	8,954	6,209	11,669	3,493
2002	15,387	6,648	8,740	9,087	6,300	11,839	3,548
2003	15,638	6,711	8,927	9,263	6,375	12,027	3,611
2004	15,720	6,711	9,009	9,334	6,386	12,088	3,632
2005	15,807	6,714	9,093	9,405	6,402	12,151	3,656
2006	16,037	6,781	9,256	9,573	6,464	12,325	3,712
2007	16,251	6,854	9,397	9,738	6,514	12,486	3,765
2008	16,495	6,944	9,551	9,932	6,563	12,671	3,825
2009	16,732	7,034	9,697	10,119	6,612	12,849	3,882
2010	16,933	7,105	9,828	10,268	6,665	13,000	3,933
2011	17,157	7,179	9,978	10,425	6,734	13,166	3,992
			High alternative projections				
2000	15,129	6,603	8,525	8,885	6,244	11,650	3,478
2001	15,438	6,704	8,734	9,116	6,321	11,881	3,557
2002	15,667	6,768	8,898	9,253	6,414	12,055	3,612
2003	15,986	6,861	9,125	9,469	6,517	12,295	3,691
2004	16,428	7,013	9,415	9,754	6,674	12,632	3,796
2005	16,785	7,130	9,655	9,987	6,798	12,903	3,882
2006	17,029	7,201	9,828	10,165	6,864	13,087	3,942
2007	17,257	7,278	9,979	10,340	6,916	13,258	3,997
2008	17,515	7,374	10,141	10,546	6,969	13,455	4,061
2009	17,766	7,470	10,297	10,745	7,020	13,643	4,122
2010	17,981	7,545	10,436	10,904	7,077	13,804	4,177
2011	18,219	7,623	10,596	11,069	7,150	13,980	4,238

NOTE: Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (See Appendix E for more details.) Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model. (This table was prepared May 2001.)

Table 11A.—Total enrollment in all degree-granting institutions, by sex, age, and attendance status: Fall 1986 to fall 1999

(In thousands)

Sex, age, and attendance status	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Men and women, total	**12,505**	**12,767**	**13,055**	**13,539**	**13,819**	**14,359**	**14,486**	**14,305**	**14,279**	**14,262**	**14,368**	**14,502**	**14,507**	**14,791**
14 to 17 years old	206	264	179	185	177	125	186	127	138	148	231	171	119	143
18 to 19 years old	2,914	3,012	2,940	3,041	2,950	2,864	2,784	2,840	2,787	2,894	3,038	3,061	3,382	3,414
20 to 21 years old	2,304	2,651	2,667	2,550	2,761	2,920	2,883	2,674	2,724	2,705	2,659	2,875	2,811	2,989
22 to 24 years old	2,051	1,979	2,068	2,185	2,144	2,306	2,527	2,570	2,482	2,411	2,324	2,475	2,377	2,435
25 to 29 years old	1,893	1,745	1,740	1,979	1,982	2,072	1,985	2,002	1,985	2,120	2,128	1,999	1,991	1,870
30 to 34 years old	1,219	1,223	1,283	1,305	1,322	1,415	1,456	1,345	1,414	1,236	1,196	1,109	1,195	1,145
35 years old and over	1,918	1,892	2,179	2,293	2,484	2,656	2,665	2,747	2,750	2,747	2,791	2,814	2,632	2,796
Men, total	**5,885**	**5,932**	**6,002**	**6,190**	**6,284**	**6,502**	**6,524**	**6,427**	**6,372**	**6,343**	**6,353**	**6,396**	**6,369**	**6,491**
14 to 17 years old	85	127	58	77	87	50	89	54	62	61	92	56	45	72
18 to 19 years old	1,428	1,427	1,343	1,433	1,421	1,299	1,305	1,288	1,302	1,338	1,354	1,414	1,535	1,541
20 to 21 years old	1,143	1,318	1,332	1,261	1,368	1,387	1,342	1,284	1,264	1,282	1,228	1,374	1,374	1,392
22 to 24 years old	1,067	995	1,130	1,084	1,107	1,232	1,272	1,344	1,238	1,153	1,177	1,200	1,127	1,090
25 to 29 years old	1,001	920	844	993	940	1,049	955	903	936	962	991	972	908	874
30 to 34 years old	545	520	588	562	537	614	627	584	601	561	477	443	463	517
35 years old and over	616	625	707	782	824	870	933	970	969	986	1,033	938	917	1,005
Women, total	**6,620**	**6,835**	**7,053**	**7,349**	**7,535**	**7,857**	**7,963**	**7,877**	**7,907**	**7,919**	**8,015**	**8,106**	**8,138**	**8,301**
14 to 17 years old	121	136	121	108	90	76	97	73	75	87	139	115	74	72
18 to 19 years old	1,486	1,585	1,596	1,608	1,529	1,565	1,479	1,552	1,485	1,557	1,684	1,647	1,847	1,874
20 to 21 years old	1,161	1,333	1,336	1,290	1,392	1,533	1,541	1,391	1,461	1,424	1,430	1,501	1,437	1,597
22 to 24 years old	983	984	937	1,101	1,037	1,074	1,255	1,226	1,243	1,258	1,147	1,275	1,250	1,344
25 to 29 years old	892	825	896	986	1,043	1,022	1,030	1,098	1,049	1,159	1,137	1,027	1,083	995
30 to 34 years old	673	703	695	743	784	800	828	761	812	675	719	666	732	627
35 years old and over	1,302	1,268	1,472	1,511	1,659	1,786	1,732	1,777	1,781	1,760	1,758	1,877	1,715	1,791
Full-time, total	**7,120**	**7,231**	**7,437**	**7,661**	**7,821**	**8,115**	**8,161**	**8,128**	**8,138**	**8,129**	**8,303**	**8,438**	**8,563**	**8,786**
14 to 17 years old	187	146	150	154	144	117	179	92	118	123	166	123	93	129
18 to 19 years old	2,524	2,568	2,528	2,671	2,548	2,466	2,382	2,370	2,321	2,387	2,553	2,534	2,794	2,848
20 to 21 years old	1,844	2,060	2,108	2,064	2,151	2,342	2,267	2,148	2,178	2,109	2,117	2,275	2,271	2,362
22 to 24 years old	1,264	1,185	1,243	1,300	1,350	1,467	1,594	1,612	1,551	1,517	1,598	1,606	1,564	1,662
25 to 29 years old	658	650	670	667	770	830	731	839	869	908	911	897	890	854
30 to 34 years old	310	278	350	332	387	382	409	424	440	430	383	377	367	338
35 years old and over	333	344	389	474	471	513	598	643	660	653	575	626	584	593
Full-time men	**3,599**	**3,611**	**3,662**	**3,740**	**3,808**	**3,929**	**3,926**	**3,891**	**3,855**	**3,807**	**3,851**	**3,890**	**3,934**	**4,026**
14 to 17 years old	81	70	51	60	71	41	86	37	51	54	72	48	39	63
18 to 19 years old	1,250	1,228	1,171	1,289	1,230	1,141	1,130	1,079	1,081	1,091	1,126	1,154	1,240	1,271
20 to 21 years old	938	1,039	1,032	1,017	1,055	1,103	1,084	1,003	1,029	999	969	1,074	1,129	1,125
22 to 24 years old	691	649	723	696	742	817	854	896	811	789	858	770	777	788
25 to 29 years old	381	353	383	366	401	465	378	443	457	454	444	475	424	416
30 to 34 years old	150	139	158	151	156	174	174	180	193	183	143	160	141	149
35 years old and over	109	132	145	162	152	187	220	253	232	238	240	210	184	213
Full-time women	**3,521**	**3,620**	**3,775**	**3,921**	**4,013**	**4,186**	**4,235**	**4,237**	**4,283**	**4,321**	**4,452**	**4,548**	**4,630**	**4,761**
14 to 17 years old	107	76	99	93	73	76	93	55	67	69	95	75	54	66
18 to 19 years old	1,275	1,341	1,357	1,383	1,318	1,325	1,253	1,291	1,240	1,296	1,426	1,380	1,555	1,577
20 to 21 years old	906	1,021	1,076	1,047	1,096	1,239	1,183	1,145	1,149	1,111	1,148	1,201	1,142	1,237
22 to 24 years old	573	536	520	604	608	650	739	716	740	729	740	836	787	875
25 to 29 years old	277	296	287	301	369	364	353	396	412	455	467	422	466	437
30 to 34 years old	160	139	192	182	231	208	235	244	247	247	240	217	226	190
35 years old and over	223	211	244	311	319	325	377	390	428	415	336	416	400	380
Part-time, total	**5,384**	**5,536**	**5,618**	**5,878**	**5,998**	**6,244**	**6,325**	**6,177**	**6,141**	**6,133**	**6,065**	**6,064**	**5,944**	**6,005**
14 to 17 years old	19	117	29	32	32	9	7	35	19	25	65	48	26	14
18 to 19 years old	390	444	412	370	402	399	402	470	466	507	485	526	588	566
20 to 21 years old	460	591	559	487	610	578	616	526	546	596	542	600	540	627
22 to 24 years old	787	794	825	885	794	840	933	958	930	894	727	869	813	772
25 to 29 years old	1,235	1,096	1,070	1,312	1,213	1,242	1,254	1,163	1,116	1,212	1,217	1,101	1,101	1,016
30 to 34 years old	909	945	933	973	935	1,033	1,046	921	973	805	813	732	828	806
35 years old and over	1,586	1,549	1,790	1,819	2,012	2,143	2,068	2,104	2,091	2,093	2,216	2,188	2,048	2,203
Part-time men	**2,286**	**2,321**	**2,340**	**2,450**	**2,476**	**2,572**	**2,597**	**2,537**	**2,517**	**2,535**	**2,502**	**2,506**	**2,436**	**2,465**
14 to 17 years old	5	57	7	17	16	9	4	17	11	7	20	9	5	8
18 to 19 years old	178	199	172	144	191	158	176	210	220	246	228	260	296	269
20 to 21 years old	205	279	300	244	313	285	258	281	235	283	260	300	245	267
22 to 24 years old	377	346	408	388	365	415	417	448	427	365	319	430	350	302
25 to 29 years old	620	567	461	627	539	584	577	460	479	508	547	497	485	458
30 to 34 years old	395	381	431	411	381	440	453	404	408	378	334	283	322	369
35 years old and over	507	492	561	619	672	682	713	717	737	748	793	728	733	791
Part-time women	**3,099**	**3,214**	**3,278**	**3,428**	**3,521**	**3,671**	**3,728**	**3,640**	**3,624**	**3,598**	**3,563**	**3,559**	**3,508**	**3,540**
14 to 17 years old	14	61	22	15	17	0	3	18	8	18	45	39	21	6
18 to 19 years old	212	244	240	226	211	241	226	261	245	261	257	267	292	297
20 to 21 years old	255	312	260	243	297	294	358	245	311	313	282	300	295	360
22 to 24 years old	410	448	417	497	429	425	516	510	504	529	407	439	463	470
25 to 29 years old	615	528	609	685	674	658	677	702	637	704	670	605	617	558
30 to 34 years old	514	564	503	562	554	593	593	517	565	427	479	449	506	438
35 years old and over	1,079	1,056	1,229	1,200	1,340	1,461	1,355	1,386	1,354	1,345	1,423	1,460	1,315	1,411

NOTE: Some data have been revised from previously published figures. Data by age are based on the distribution by age from the Bureau of the Census. Data for 1999 were imputed using alternative procedures. (See Appendix E for more details.) Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; Enrollment in Degree-Granting Institutions Model; and U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, "Social and Economic Characteristics of Students," various years. (This table was prepared May 2001.)

Table 11B.—Total projected enrollment in all degree-granting institutions, by sex, age, and attendance status, with middle alternative projections: Fall 2000 to fall 2011

(In thousands)

Sex, age, and attendance status	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Men and women, total	**14,979**	**15,300**	**15,527**	**15,812**	**16,074**	**16,296**	**16,533**	**16,754**	**17,005**	**17,249**	**17,457**	**17,688**
14 to 17 years old	172	170	185	190	196	203	211	222	225	226	224	224
18 to 19 years old	3,458	3,543	3,543	3,597	3,694	3,739	3,799	3,890	4,020	4,122	4,136	4,111
20 to 21 years old	3,017	3,101	3,154	3,217	3,216	3,265	3,343	3,376	3,422	3,496	3,615	3,716
22 to 24 years old	2,395	2,457	2,538	2,611	2,682	2,719	2,732	2,764	2,792	2,829	2,862	2,928
25 to 29 years old	1,867	1,863	1,886	1,934	1,998	2,069	2,144	2,205	2,258	2,291	2,316	2,355
30 to 34 years old	1,185	1,223	1,243	1,257	1,259	1,255	1,244	1,256	1,280	1,315	1,356	1,405
35 years old and over	2,885	2,943	2,978	3,007	3,029	3,046	3,059	3,041	3,008	2,970	2,948	2,948
Men, total	**6,538**	**6,644**	**6,708**	**6,786**	**6,862**	**6,922**	**6,991**	**7,066**	**7,159**	**7,252**	**7,325**	**7,401**
14 to 17 years old	94	89	97	98	101	103	106	110	111	111	109	108
18 to 19 years old	1,551	1,585	1,582	1,598	1,635	1,649	1,668	1,702	1,755	1,797	1,797	1,783
20 to 21 years old	1,420	1,450	1,464	1,483	1,475	1,489	1,519	1,529	1,544	1,575	1,625	1,665
22 to 24 years old	1,091	1,136	1,181	1,216	1,249	1,264	1,267	1,280	1,292	1,306	1,319	1,346
25 to 29 years old	865	861	868	886	912	940	970	995	1,017	1,029	1,038	1,051
30 to 34 years old	521	531	533	532	526	519	510	511	518	529	543	559
35 years old and over	997	992	982	973	965	958	951	938	922	905	894	889
Women, total	**8,441**	**8,656**	**8,819**	**9,026**	**9,212**	**9,374**	**9,542**	**9,688**	**9,846**	**9,997**	**10,132**	**10,287**
14 to 17 years old	78	81	87	91	95	100	105	111	114	115	115	116
18 to 19 years old	1,907	1,958	1,961	1,999	2,059	2,091	2,132	2,187	2,265	2,326	2,338	2,328
20 to 21 years old	1,597	1,651	1,690	1,734	1,741	1,776	1,824	1,848	1,877	1,922	1,990	2,052
22 to 24 years old	1,305	1,321	1,357	1,395	1,434	1,455	1,465	1,484	1,500	1,522	1,543	1,583
25 to 29 years old	1,002	1,002	1,018	1,048	1,086	1,129	1,173	1,210	1,241	1,262	1,278	1,304
30 to 34 years old	664	692	710	725	733	737	735	745	763	786	813	846
35 years old and over	1,888	1,951	1,996	2,034	2,064	2,088	2,107	2,103	2,086	2,064	2,054	2,059
Full-time, total	**8,797**	**9,035**	**9,170**	**9,366**	**9,544**	**9,696**	**9,869**	**10,039**	**10,239**	**10,432**	**10,586**	**10,747**
14 to 17 years old	136	143	152	158	163	170	177	186	189	190	188	189
18 to 19 years old	2,857	2,956	2,976	3,041	3,137	3,187	3,247	3,332	3,449	3,541	3,556	3,540
20 to 21 years old	2,400	2,492	2,549	2,611	2,617	2,663	2,731	2,762	2,801	2,864	2,962	3,049
22 to 24 years old	1,613	1,642	1,688	1,731	1,776	1,798	1,805	1,826	1,844	1,867	1,890	1,937
25 to 29 years old	811	795	793	807	831	858	889	914	936	950	960	980
30 to 34 years old	372	391	398	401	401	399	395	398	405	415	427	445
35 years old and over	608	615	614	616	619	621	624	621	614	606	602	606
Full-time men	**4,005**	**4,091**	**4,133**	**4,196**	**4,255**	**4,301**	**4,358**	**4,420**	**4,497**	**4,572**	**4,627**	**4,682**
14 to 17 years old	69	74	79	81	83	85	88	91	92	91	90	90
18 to 19 years old	1,271	1,308	1,312	1,333	1,369	1,385	1,405	1,437	1,485	1,521	1,523	1,513
20 to 21 years old	1,144	1,171	1,184	1,201	1,196	1,209	1,233	1,242	1,255	1,280	1,321	1,354
22 to 24 years old	761	779	804	826	847	857	859	869	877	886	895	914
25 to 29 years old	401	396	394	399	409	420	433	443	453	457	461	468
30 to 34 years old	155	162	164	164	162	160	157	157	159	163	167	172
35 years old and over	204	201	196	191	188	186	184	181	177	173	171	171
Full-time women	**4,792**	**4,945**	**5,038**	**5,171**	**5,290**	**5,394**	**5,511**	**5,619**	**5,742**	**5,860**	**5,959**	**6,065**
14 to 17 years old	67	69	74	77	81	85	89	95	97	99	98	100
18 to 19 years old	1,585	1,648	1,664	1,708	1,768	1,802	1,843	1,895	1,965	2,020	2,033	2,027
20 to 21 years old	1,256	1,321	1,365	1,409	1,422	1,454	1,498	1,519	1,546	1,584	1,642	1,695
22 to 24 years old	852	864	884	906	928	940	946	957	967	981	995	1,023
25 to 29 years old	410	399	399	408	422	438	456	471	484	492	500	513
30 to 34 years old	218	229	234	238	240	240	239	241	246	253	261	272
35 years old and over	403	414	419	425	430	435	440	440	437	433	431	435
Part-time, total	**6,182**	**6,265**	**6,357**	**6,446**	**6,530**	**6,600**	**6,664**	**6,715**	**6,766**	**6,816**	**6,871**	**6,942**
14 to 17 years old	36	27	32	32	33	33	34	36	36	36	35	35
18 to 19 years old	602	587	567	555	557	553	552	558	571	582	580	571
20 to 21 years old	617	609	604	606	598	602	612	615	621	633	653	667
22 to 24 years old	782	815	851	880	907	921	927	938	948	961	973	991
25 to 29 years old	1,055	1,067	1,093	1,127	1,167	1,211	1,255	1,290	1,322	1,341	1,356	1,374
30 to 34 years old	813	831	846	856	858	856	849	858	87[illegible]	900	928	961
35 years old and over	2,278	2,328	2,364	2,391	2,410	2,425	2,435	2,420	2,394	2,364	2,346	2,342
Part-time men	**2,533**	**2,554**	**2,575**	**2,590**	**2,607**	**2,620**	**2,632**	**2,645**	**2,662**	**2,680**	**2,698**	**2,719**
14 to 17 years old	25	15	18	17	18	18	19	19	20	19	19	19
18 to 19 years old	280	278	270	265	266	264	263	265	271	276	274	270
20 to 21 years old	276	279	280	282	279	280	285	287	289	295	304	311
22 to 24 years old	330	357	377	390	401	407	408	411	415	420	424	431
25 to 29 years old	464	465	473	486	503	520	538	552	565	572	577	583
30 to 34 years old	366	369	370	368	364	359	353	354	358	366	376	387
35 years old and over	793	791	787	781	777	772	768	757	745	732	723	718
Part-time women	**3,648**	**3,711**	**3,782**	**3,855**	**3,922**	**3,980**	**4,031**	**4,069**	**4,104**	**4,136**	**4,173**	**4,222**
14 to 17 years old	11	12	14	14	15	15	16	16	17	17	16	16
18 to 19 years old	322	309	297	291	291	289	289	293	300	306	306	301
20 to 21 years old	341	330	325	324	320	321	327	328	332	338	349	357
22 to 24 years old	452	458	473	489	505	515	519	526	533	541	549	560
25 to 29 years old	591	603	619	640	665	691	717	739	757	769	779	791
30 to 34 years old	446	462	476	488	494	497	496	504	517	533	552	574
35 years old and over	1,485	1,537	1,577	1,609	1,633	1,652	1,667	1,663	1,649	1,632	1,623	1,623

NOTE: Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; Enrollment in Degree-Granting Institutions Model; and U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, "Social and Economic Characteristics of Students," various years. (This table was prepared May 2001.)

Table 12.—Total enrollment in all degree-granting institutions, by sex, age, and attendance status, with low alternative projections: Fall 1991, 1996, 1999, 2006, and 2011

(In thousands)

Sex, age, and attendance status	1991	1996	1999	2006	2011
Men and women, total	**14,359**	**14,368**	**14,791**	**16,037**	**17,157**
14 to 17 years old	125	231	143	205	218
18 to 19 years old	2,864	3,038	3,414	3,685	3,988
20 to 21 years old	2,920	2,659	2,989	3,243	3,605
22 to 24 years old	2,306	2,324	2,435	2,650	2,840
25 to 29 years old	2,072	2,128	1,870	2,080	2,284
30 to 34 years old	1,415	1,196	1,145	1,207	1,363
35 years old and over	2,656	2,791	2,796	2,967	2,860
Men, total	**6,502**	**6,353**	**6,491**	**6,781**	**7,179**
14 to 17 years old	50	92	72	103	105
18 to 19 years old	1,299	1,354	1,541	1,618	1,729
20 to 21 years old	1,387	1,228	1,392	1,473	1,615
22 to 24 years old	1,232	1,177	1,090	1,229	1,305
25 to 29 years old	1,049	991	874	941	1,020
30 to 34 years old	614	477	517	494	542
35 years old and over	870	1,033	1,005	923	862
Women, total	**7,857**	**8,015**	**8,301**	**9,256**	**9,978**
14 to 17 years old	76	139	72	102	112
18 to 19 years old	1,565	1,684	1,874	2,068	2,259
20 to 21 years old	1,533	1,430	1,597	1,770	1,990
22 to 24 years old	1,074	1,147	1,344	1,421	1,535
25 to 29 years old	1,022	1,137	995	1,138	1,265
30 to 34 years old	800	719	627	713	821
35 years old and over	1,786	1,758	1,791	2,044	1,997
Full-time, total	**8,115**	**8,303**	**8,786**	**9,573**	**10,425**
14 to 17 years old	117	166	129	172	183
18 to 19 years old	2,466	2,553	2,848	3,150	3,434
20 to 21 years old	2,342	2,117	2,362	2,649	2,958
22 to 24 years old	1,467	1,598	1,662	1,751	1,879
25 to 29 years old	830	911	854	862	951
30 to 34 years old	382	383	338	383	431
35 years old and over	513	575	593	605	588
Full-time men	**3,929**	**3,851**	**4,026**	**4,227**	**4,542**
14 to 17 years old	41	72	63	85	87
18 to 19 years old	1,141	1,126	1,271	1,362	1,467
20 to 21 years old	1,103	969	1,125	1,196	1,313
22 to 24 years old	817	858	788	834	887
25 to 29 years old	465	444	416	420	454
30 to 34 years old	174	143	149	152	167
35 years old and over	187	240	213	178	166
Full-time women	**4,186**	**4,452**	**4,761**	**5,346**	**5,883**
14 to 17 years old	76	95	66	87	97
18 to 19 years old	1,325	1,426	1,577	1,787	1,967
20 to 21 years old	1,239	1,148	1,237	1,453	1,644
22 to 24 years old	650	740	875	918	992
25 to 29 years old	364	467	437	443	497
30 to 34 years old	208	240	190	231	264
35 years old and over	325	336	380	427	422
Part-time, total	**6,244**	**6,065**	**6,005**	**6,464**	**6,734**
14 to 17 years old	9	65	14	33	34
18 to 19 years old	399	485	566	536	554
20 to 21 years old	578	542	627	593	647
22 to 24 years old	840	727	772	899	961
25 to 29 years old	1,242	1,217	1,016	1,217	1,333
30 to 34 years old	1,033	813	806	824	932
35 years old and over	2,143	2,216	2,203	2,362	2,272
Part-time men	**2,572**	**2,502**	**2,465**	**2,553**	**2,637**
14 to 17 years old	9	20	8	18	18
18 to 19 years old	158	228	269	255	262
20 to 21 years old	285	260	267	277	301
22 to 24 years old	415	319	302	395	418
25 to 29 years old	584	547	458	521	566
30 to 34 years old	440	334	369	342	375
35 years old and over	682	793	791	745	697
Part-time women	**3,671**	**3,563**	**3,540**	**3,910**	**4,095**
14 to 17 years old	0	45	6	15	16
18 to 19 years old	241	257	297	281	292
20 to 21 years old	294	282	360	317	346
22 to 24 years old	425	407	470	504	543
25 to 29 years old	658	670	558	696	767
30 to 34 years old	593	479	438	481	556
35 years old and over	1,461	1,423	1,411	1,617	1,575

NOTE: Some data have been revised from previously published figures. Data for 2006 and 2011 are projected. Data by age are based on the distribution by age from the Bureau of the Census. Data for 1999 were imputed using alternative procedures. (See Appendix E for more details.) Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; Enrollment in Degree-Granting Institutions Model; and U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*. "Social and Economic Characteristics of Students," various years. (This table was prepared May 2001.)

Table 13.—Total enrollment in all degree-granting institutions, by sex, age, and attendance status, with high alternative projections: Fall 1991, 1996, 1999, 2006, and 2011

(In thousands)

Sex, age, and attendance status	1991	1996	1999	2006	2011
Men and women, total	**14,359**	**14,368**	**14,791**	**17,029**	**18,219**
14 to 17 years old	125	231	143	218	231
18 to 19 years old	2,864	3,038	3,414	3,913	4,235
20 to 21 years old	2,920	2,659	2,989	3,443	3,828
22 to 24 years old	2,306	2,324	2,435	2,814	3,016
25 to 29 years old	2,072	2,128	1,870	2,208	2,425
30 to 34 years old	1,415	1,196	1,145	1,282	1,447
35 years old and over	2,656	2,791	2,796	3,150	3,036
Men, total	**6,502**	**6,353**	**6,491**	**7,201**	**7,623**
14 to 17 years old	50	92	72	110	112
18 to 19 years old	1,299	1,354	1,541	1,718	1,836
20 to 21 years old	1,387	1,228	1,392	1,564	1,715
22 to 24 years old	1,232	1,177	1,090	1,305	1,386
25 to 29 years old	1,049	991	874	1,000	1,083
30 to 34 years old	614	477	517	525	576
35 years old and over	870	1,033	1,005	980	916
Women, total	**7,857**	**8,015**	**8,301**	**9,828**	**10,596**
14 to 17 years old	76	139	72	108	119
18 to 19 years old	1,565	1,684	1,874	2,196	2,398
20 to 21 years old	1,533	1,430	1,597	1,879	2,113
22 to 24 years old	1,074	1,147	1,344	1,509	1,630
25 to 29 years old	1,022	1,137	995	1,209	1,343
30 to 34 years old	800	719	627	757	871
35 years old and over	1,786	1,758	1,791	2,170	2,121
Full-time, total	**8,115**	**8,303**	**8,786**	**10,165**	**11,069**
14 to 17 years old	117	166	129	182	195
18 to 19 years old	2,466	2,553	2,848	3,345	3,646
20 to 21 years old	2,342	2,117	2,362	2,813	3,141
22 to 24 years old	1,467	1,598	1,662	1,860	1,995
25 to 29 years old	830	911	854	916	1,010
30 to 34 years old	382	383	338	407	458
35 years old and over	513	575	593	643	624
Full-time men	**3,929**	**3,851**	**4,026**	**4,489**	**4,822**
14 to 17 years old	41	72	63	90	92
18 to 19 years old	1,141	1,126	1,271	1,447	1,558
20 to 21 years old	1,103	969	1,125	1,270	1,395
22 to 24 years old	817	858	788	885	942
25 to 29 years old	465	444	416	446	482
30 to 34 years old	174	143	149	161	177
35 years old and over	187	240	213	189	176
Full-time women	**4,186**	**4,452**	**4,761**	**5,676**	**6,247**
14 to 17 years old	76	95	66	92	103
18 to 19 years old	1,325	1,426	1,577	1,898	2,088
20 to 21 years old	1,239	1,148	1,237	1,543	1,746
22 to 24 years old	650	740	875	974	1,053
25 to 29 years old	364	467	437	470	528
30 to 34 years old	208	240	190	246	280
35 years old and over	325	336	380	453	448
Part-time, total	**6,244**	**6,065**	**6,005**	**6,864**	**7,150**
14 to 17 years old	9	65	14	35	36
18 to 19 years old	399	485	566	569	588
20 to 21 years old	578	542	627	630	687
22 to 24 years old	840	727	772	954	1,021
25 to 29 years old	1,242	1,217	1,016	1,292	1,416
30 to 34 years old	1,033	813	806	875	989
35 years old and over	2,143	2,216	2,203	2,508	2,412
Part-time men	**2,572**	**2,502**	**2,465**	**2,711**	**2,801**
14 to 17 years old	9	20	8	19	19
18 to 19 years old	158	228	269	271	278
20 to 21 years old	285	260	267	294	320
22 to 24 years old	415	319	302	420	444
25 to 29 years old	584	547	458	554	601
30 to 34 years old	440	334	369	363	399
35 years old and over	682	793	791	791	740
Part-time women	**3,671**	**3,563**	**3,540**	**4,152**	**4,349**
14 to 17 years old	0	45	6	16	17
18 to 19 years old	241	257	297	298	310
20 to 21 years old	294	282	360	336	367
22 to 24 years old	425	407	470	535	577
25 to 29 years old	658	670	558	739	815
30 to 34 years old	593	479	438	511	591
35 years old and over	1,461	1,423	1,411	1,717	1,672

NOTE: Some data have been revised from previously published figures. Data for 2006 and 2011 are projected. Data by age are based on the distribution by age from the Bureau of the Census. Data for 1999 were imputed using alternative procedures. (See Appendix E for more details.) Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; Enrollment in Degree-Granting Institutions Model; and U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, "Social and Economic Characteristics of Students," various years. (This table was prepared May 2001.)

Table 14.—Total enrollment in all degree-granting institutions, by sex and attendance status, with alternative projections: Fall 1986 to fall 2011

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1986	12,505	3,599	2,286	3,521	3,099
1987	12,767	3,611	2,321	3,620	3,214
1988	13,055	3,662	2,340	3,775	3,278
1989	13,539	3,740	2,450	3,921	3,428
1990	13,819	3,808	2,476	4,013	3,521
1991	14,359	3,929	2,572	4,186	3,671
1992	14,486	3,926	2,597	4,235	3,728
1993	14,305	3,891	2,537	4,237	3,640
1994	14,279	3,855	2,517	4,283	3,624
1995	14,262	3,807	2,535	4,321	3,598
1996	14,368	3,851	2,502	4,452	3,563
1997	14,502	3,890	2,506	4,548	3,559
1998	14,507	3,934	2,436	4,630	3,508
1999	14,791	4,026	2,465	4,761	3,540
		Middle alternative projections			
2000	14,979	4,005	2,533	4,792	3,648
2001	15,300	4,091	2,554	4,945	3,711
2002	15,527	4,133	2,575	5,038	3,782
2003	15,812	4,196	2,590	5,171	3,855
2004	16,074	4,255	2,607	5,290	3,922
2005	16,296	4,301	2,620	5,394	3,980
2006	16,533	4,358	2,632	5,511	4,031
2007	16,754	4,420	2,645	5,619	4,069
2008	17,005	4,497	2,662	5,742	4,104
2009	17,249	4,572	2,680	5,860	4,136
2010	17,457	4,627	2,698	5,959	4,173
2011	17,688	4,682	2,719	6,065	4,222
		Low alternative projections			
2000	14,829	3,965	2,508	4,744	3,612
2001	15,162	4,054	2,531	4,900	3,678
2002	15,387	4,096	2,552	4,993	3,748
2003	15,638	4,150	2,562	5,114	3,813
2004	15,720	4,161	2,550	5,174	3,836
2005	15,807	4,172	2,541	5,232	3,861
2006	16,037	4,227	2,553	5,346	3,910
2007	16,251	4,287	2,566	5,450	3,947
2008	16,495	4,362	2,582	5,570	3,981
2009	16,732	4,435	2,600	5,684	4,012
2010	16,933	4,488	2,617	5,780	4,048
2011	17,157	4,542	2,637	5,883	4,095
		High alternative projections			
2000	15,129	4,045	2,558	4,840	3,684
2001	15,438	4,128	2,577	4,990	3,744
2002	15,667	4,170	2,598	5,083	3,816
2003	15,986	4,242	2,618	5,228	3,897
2004	16,428	4,349	2,664	5,406	4,008
2005	16,785	4,430	2,699	5,556	4,099
2006	17,029	4,489	2,711	5,676	4,152
2007	17,257	4,553	2,724	5,788	4,191
2008	17,515	4,632	2,742	5,914	4,227
2009	17,766	4,709	2,760	6,036	4,260
2010	17,981	4,766	2,779	6,138	4,298
2011	18,219	4,822	2,801	6,247	4,349

NOTE: Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (See Appendix E for more details.) Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model. (This table was prepared May 2001.)

Table 15.—Total enrollment in public 4–year degree-granting institutions, by sex and attendance status, with alternative projections: Fall 1986 to fall 2011

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1986	5,301	1,865	706	1,793	937
1987	5,432	1,882	723	1,854	973
1988	5,546	1,910	722	1,932	982
1989	5,694	1,938	743	1,997	1,017
1990	5,848	1,982	764	2,051	1,050
1991	5,905	2,006	765	2,083	1,051
1992	5,900	2,005	760	2,090	1,045
1993	5,852	1,989	750	2,085	1,027
1994	5,825	1,966	738	2,100	1,022
1995	5,815	1,951	720	2,134	1,009
1996	5,806	1,943	703	2,163	997
1997	5,835	1,951	687	2,214	984
1998	5,892	1,959	685	2,260	988
1999	5,970	1,984	686	2,309	991
Middle alternative projections					
2000	6,055	1,994	706	2,337	1,018
2001	6,202	2,036	714	2,411	1,040
2002	6,300	2,059	720	2,458	1,064
2003	6,427	2,091	725	2,524	1,087
2004	6,538	2,119	730	2,581	1,108
2005	6,634	2,143	734	2,632	1,126
2006	6,738	2,171	736	2,690	1,141
2007	6,835	2,201	739	2,742	1,152
2008	6,944	2,238	743	2,801	1,161
2009	7,052	2,275	747	2,859	1,170
2010	7,147	2,305	752	2,910	1,180
2011	7,253	2,334	759	2,964	1,196
Low alternative projections					
2000	5,994	1,974	699	2,314	1,008
2001	6,146	2,018	708	2,389	1,031
2002	6,243	2,040	714	2,436	1,054
2003	6,356	2,068	717	2,496	1,075
2004	6,394	2,072	714	2,524	1,084
2005	6,435	2,079	712	2,553	1,092
2006	6,536	2,106	714	2,609	1,107
2007	6,630	2,135	717	2,660	1,117
2008	6,736	2,171	721	2,717	1,126
2009	6,840	2,207	725	2,773	1,135
2010	6,933	2,236	729	2,823	1,145
2011	7,035	2,264	736	2,875	1,160
High alternative projections					
2000	6,116	2,014	713	2,360	1,028
2001	6,258	2,054	720	2,433	1,049
2002	6,357	2,078	726	2,480	1,074
2003	6,498	2,114	733	2,552	1,099
2004	6,682	2,166	746	2,638	1,132
2005	6,833	2,207	756	2,711	1,160
2006	6,940	2,236	758	2,771	1,175
2007	7,040	2,267	761	2,824	1,187
2008	7,152	2,305	765	2,885	1,196
2009	7,264	2,343	769	2,945	1,205
2010	7,361	2,374	775	2,997	1,215
2011	7,471	2,404	782	3,053	1,232

NOTE: Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (See Appendix E for more details.) Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model. (This table was prepared May 2001.)

Table 16.—Total enrollment in public 2-year degree-granting institutions, by sex and attendance status, with alternative projections: Fall 1986 to fall 2011

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1986	4,414	742	1,193	764	1,715
1987	4,541	744	1,225	787	1,785
1988	4,615	746	1,231	822	1,817
1989	4,884	793	1,302	881	1,907
1990	4,996	811	1,318	906	1,962
1991	5,405	882	1,414	1,004	2,105
1992	5,485	878	1,431	1,037	2,138
1993	5,337	859	1,386	1,030	2,063
1994	5,308	848	1,379	1,038	2,044
1995	5,278	819	1,417	1,022	2,020
1996	5,314	833	1,423	1,039	2,019
1997	5,361	842	1,444	1,049	2,026
1998	5,246	841	1,383	1,040	1,981
1999	5,339	868	1,404	1,063	2,005
Middle alternative projections					
2000	5,479	873	1,444	1,090	2,071
2001	5,573	894	1,452	1,127	2,100
2002	5,647	902	1,464	1,147	2,134
2003	5,735	915	1,472	1,176	2,172
2004	5,822	929	1,482	1,205	2,206
2005	5,893	939	1,490	1,228	2,236
2006	5,968	952	1,498	1,254	2,264
2007	6,038	967	1,506	1,279	2,285
2008	6,118	986	1,517	1,309	2,305
2009	6,194	1,004	1,529	1,337	2,324
2010	6,255	1,014	1,540	1,357	2,345
2011	6,320	1,022	1,551	1,377	2,371
Low alternative projections					
2000	5,424	864	1,430	1,079	2,050
2001	5,523	886	1,439	1,117	2,081
2002	5,596	894	1,451	1,137	2,115
2003	5,672	905	1,456	1,163	2,148
2004	5,694	909	1,449	1,178	2,157
2005	5,716	911	1,445	1,191	2,169
2006	5,789	923	1,453	1,216	2,196
2007	5,857	938	1,461	1,241	2,216
2008	5,934	956	1,471	1,270	2,236
2009	6,008	974	1,483	1,297	2,254
2010	6,067	984	1,494	1,316	2,275
2011	6,130	991	1,504	1,336	2,300
High alternative projections					
2000	5,534	882	1,458	1,101	2,092
2001	5,623	902	1,465	1,137	2,119
2002	5,698	910	1,477	1,157	2,153
2003	5,798	925	1,488	1,189	2,196
2004	5,950	949	1,515	1,232	2,255
2005	6,070	967	1,535	1,265	2,303
2006	6,147	981	1,543	1,292	2,332
2007	6,219	996	1,551	1,317	2,354
2008	6,302	1,016	1,563	1,348	2,374
2009	6,380	1,034	1,575	1,377	2,394
2010	6,443	1,044	1,586	1,398	2,415
2011	6,510	1,053	1,598	1,418	2,442

NOTE: Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (See Appendix E for more details.) Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model. (This table was prepared May 2001.)

Table 17.—Total enrollment in private 4–year degree-granting institutions, by sex and attendance status, with alternative projections: Fall 1986 to fall 2011

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1986	2,524	910	343	856	414
1987	2,558	909	346	878	426
1988	2,634	933	347	918	436
1989	2,693	933	360	938	463
1990	2,730	944	361	959	466
1991	2,802	962	367	990	483
1992	2,864	970	375	1,016	503
1993	2,887	973	369	1,037	508
1994	2,924	978	367	1,063	516
1995	2,955	978	364	1,089	523
1996	2,998	991	356	1,133	518
1997	3,061	1,008	360	1,170	523
1998	3,126	1,038	353	1,220	514
1999	3,229	1,073	360	1,276	519
		Middle alternative projections			
2000	3,191	1,044	366	1,252	530
2001	3,265	1,064	370	1,290	542
2002	3,316	1,076	372	1,314	554
2003	3,382	1,092	375	1,349	566
2004	3,440	1,107	377	1,379	577
2005	3,491	1,119	379	1,407	587
2006	3,545	1,133	380	1,437	595
2007	3,594	1,148	381	1,465	600
2008	3,650	1,167	383	1,495	605
2009	3,705	1,185	385	1,525	609
2010	3,754	1,200	387	1,552	615
2011	3,810	1,216	391	1,581	623
		Low alternative projections			
2000	3,159	1,034	362	1,239	525
2001	3,236	1,054	367	1,278	537
2002	3,286	1,066	369	1,302	549
2003	3,345	1,080	371	1,334	560
2004	3,364	1,083	369	1,349	564
2005	3,386	1,085	368	1,365	569
2006	3,439	1,099	369	1,394	577
2007	3,486	1,114	370	1,421	582
2008	3,541	1,132	372	1,450	587
2009	3,594	1,149	373	1,479	591
2010	3,641	1,164	375	1,505	597
2011	3,696	1,180	379	1,534	604
		High alternative projections			
2000	3,223	1,054	370	1,265	535
2001	3,294	1,074	373	1,302	547
2002	3,346	1,086	375	1,326	559
2003	3,419	1,104	379	1,364	572
2004	3,516	1,131	385	1,409	590
2005	3,596	1,153	390	1,449	605
2006	3,651	1,167	391	1,480	613
2007	3,702	1,182	392	1,509	618
2008	3,760	1,202	394	1,540	623
2009	3,816	1,221	397	1,571	627
2010	3,867	1,236	399	1,599	633
2011	3,924	1,252	403	1,628	642

NOTE: Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (See Appendix E for more details.) Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model. (This table was prepared May 2001.)

Table 18.—Total enrollment in private 2-year degree-granting institutions, by sex and attendance status, with alternative projections: Fall 1986 to fall 2011

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1986	266	83	43	108	32
1987	235	76	28	102	29
1988	260	73	40	103	44
1989	267	76	45	105	41
1990	244	71	34	96	43
1991	247	80	27	109	32
1992	238	74	30	91	43
1993	229	70	31	85	43
1994	221	64	33	82	43
1995	215	60	33	77	45
1996	249	84	19	117	29
1997	245	89	14	115	26
1998	243	95	14	109	25
1999	253	101	15	112	25
Middle alternative projections					
2000	254	94	18	113	29
2001	260	96	18	117	29
2002	263	97	18	119	30
2003	269	98	18	122	30
2004	274	100	18	125	31
2005	278	101	18	127	31
2006	282	102	18	130	32
2007	287	104	19	133	32
2008	293	106	19	136	32
2009	298	108	19	139	32
2010	301	109	19	141	33
2011	305	110	19	143	33
Low alternative projections					
2000	251	93	18	112	29
2001	258	95	18	116	29
2002	261	96	18	118	30
2003	266	97	18	121	30
2004	268	98	18	122	30
2005	270	98	17	123	30
2006	274	99	17	126	31
2007	278	101	18	129	31
2008	284	103	18	132	31
2009	289	105	18	135	31
2010	292	106	18	137	32
2011	296	107	18	139	32
High alternative projections					
2000	257	95	18	114	29
2001	262	97	18	118	29
2002	265	98	18	120	30
2003	272	99	18	123	30
2004	280	102	18	128	32
2005	286	104	19	131	32
2006	290	105	19	134	33
2007	296	107	20	137	33
2008	302	109	20	140	33
2009	307	111	20	143	33
2010	310	112	20	145	34
2011	314	113	20	147	34

NOTE: Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (See Appendix E for more details.) Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model. (This table was prepared May 2001.)

Table 19.—Total undergraduate enrollment in all degree-granting institutions, by sex, attendance status, and control of institution, with alternative projections: Fall 1986 to fall 2011

(In thousands)

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
1986	10,799	5,018	5,781	6,353	4,446	8,661	2,137
1987	11,046	5,069	5,978	6,463	4,584	8,919	2,128
1988	11,317	5,137	6,179	6,642	4,674	9,103	2,213
1989	11,743	5,311	6,431	6,841	4,901	9,488	2,255
1990	11,959	5,380	6,579	6,976	4,983	9,710	2,250
1991	12,439	5,571	6,868	7,222	5,217	10,148	2,291
1992	12,537	5,582	6,954	7,243	5,293	10,216	2,320
1993	12,324	5,484	6,840	7,179	5,145	10,012	2,312
1994	12,263	5,423	6,840	7,169	5,094	9,945	2,317
1995	12,232	5,402	6,831	7,146	5,087	9,904	2,328
1996	12,327	5,421	6,907	7,299	5,029	9,935	2,392
1997	12,451	5,469	6,982	7,419	5,032	10,007	2,443
1998	12,437	5,446	6,991	7,539	4,898	9,950	2,487
1999	12,681	5,560	7,122	7,735	4,947	10,110	2,571
Middle alternative projections							
2000	12,894	5,617	7,277	7,785	5,109	10,334	2,561
2001	13,182	5,715	7,467	8,012	5,170	10,554	2,628
2002	13,378	5,773	7,605	8,136	5,242	10,708	2,670
2003	13,628	5,845	7,784	8,316	5,313	10,902	2,726
2004	13,855	5,912	7,942	8,474	5,380	11,080	2,775
2005	14,048	5,966	8,083	8,611	5,438	11,231	2,818
2006	14,261	6,031	8,231	8,772	5,490	11,395	2,866
2007	14,461	6,099	8,361	8,927	5,533	11,549	2,911
2008	14,694	6,187	8,508	9,115	5,580	11,729	2,965
2009	14,922	6,274	8,648	9,296	5,626	11,904	3,018
2010	15,111	6,341	8,771	9,438	5,674	12,049	3,062
2011	15,305	6,404	8,902	9,574	5,732	12,199	3,106
Low alternative projections							
2000	12,765	5,561	7,204	7,707	5,058	10,231	2,535
2001	13,063	5,664	7,400	7,940	5,123	10,459	2,604
2002	13,258	5,721	7,537	8,063	5,195	10,612	2,646
2003	13,478	5,781	7,698	8,225	5,255	10,782	2,696
2004	13,550	5,782	7,767	8,288	5,262	10,836	2,714
2005	13,627	5,787	7,841	8,353	5,275	10,894	2,733
2006	13,833	5,850	7,984	8,509	5,325	11,053	2,780
2007	14,027	5,916	8,110	8,659	5,367	11,203	2,824
2008	14,253	6,001	8,253	8,842	5,413	11,377	2,876
2009	14,474	6,086	8,389	9,017	5,457	11,547	2,927
2010	14,658	6,151	8,508	9,155	5,504	11,688	2,970
2011	14,846	6,212	8,635	9,287	5,560	11,833	3,013
High alternative projections							
2000	13,023	5,673	7,350	7,863	5,160	10,437	2,587
2001	13,301	5,766	7,534	8,084	5,217	10,649	2,652
2002	13,498	5,825	7,673	8,209	5,289	10,804	2,694
2003	13,778	5,909	7,870	8,407	5,371	11,022	2,756
2004	14,160	6,042	8,117	8,660	5,498	11,324	2,836
2005	14,469	6,145	8,325	8,869	5,601	11,568	2,903
2006	14,689	6,212	8,478	9,035	5,655	11,737	2,952
2007	14,895	6,282	8,612	9,195	5,699	11,895	2,998
2008	15,135	6,373	8,763	9,388	5,747	12,081	3,054
2009	15,370	6,462	8,907	9,575	5,795	12,261	3,109
2010	15,564	6,531	9,034	9,721	5,844	12,410	3,154
2011	15,764	6,596	9,169	9,861	5,904	12,565	3,199

NOTE: Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (See Appendix E for more details.) Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model. (This table was prepared May 2001.)

Table 20.—Total graduate enrollment in all degree-granting institutions, by sex, attendance status, and control of institution, with alternative projections: Fall 1986 to fall 2011

(In thousands)

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
1986	1,435	693	742	522	913	941	494
1987	1,452	694	758	527	925	945	507
1988	1,472	697	775	553	919	949	522
1989	1,522	710	811	572	949	978	544
1990	1,586	737	849	599	987	1,023	563
1991	1,639	760	878	641	997	1,050	589
1992	1,669	772	896	665	1,003	1,058	611
1993	1,688	771	918	689	1,000	1,064	625
1994	1,721	776	945	706	1,015	1,075	647
1995	1,732	768	964	717	1,015	1,074	659
1996	1,742	759	983	737	1,005	1,069	674
1997	1,753	758	996	753	1,001	1,070	683
1998	1,768	754	1,013	753	1,014	1,067	701
1999	1,807	766	1,041	781	1,026	1,077	730
Middle alternative projections							
2000	1,787	758	1,028	747	1,039	1,082	705
2001	1,816	764	1,053	756	1,061	1,100	716
2002	1,844	768	1,077	764	1,081	1,118	727
2003	1,875	773	1,101	775	1,099	1,137	738
2004	1,905	780	1,125	790	1,115	1,155	750
2005	1,929	784	1,145	801	1,128	1,170	760
2006	1,950	788	1,162	811	1,139	1,182	768
2007	1,967	793	1,174	821	1,146	1,193	774
2008	1,982	797	1,185	830	1,152	1,202	780
2009	1,994	801	1,194	840	1,155	1,209	785
2010	2,010	806	1,205	849	1,162	1,219	792
2011	2,041	815	1,225	867	1,173	1,237	804
Low alternative projections							
2000	1,769	750	1,018	740	1,029	1,071	698
2001	1,800	757	1,044	749	1,051	1,090	710
2002	1,827	761	1,067	757	1,071	1,108	720
2003	1,854	764	1,089	766	1,087	1,124	730
2004	1,863	763	1,100	773	1,090	1,130	734
2005	1,871	760	1,111	777	1,094	1,135	737
2006	1,892	764	1,127	787	1,105	1,147	745
2007	1,908	769	1,139	796	1,112	1,157	751
2008	1,923	773	1,149	805	1,117	1,166	757
2009	1,934	777	1,158	815	1,120	1,173	761
2010	1,950	782	1,169	824	1,127	1,182	768
2011	1,980	791	1,188	841	1,138	1,200	780
High alternative projections							
2000	1,805	766	1,038	754	1,049	1,093	712
2001	1,832	771	1,062	763	1,071	1,110	722
2002	1,861	775	1,087	771	1,091	1,128	734
2003	1,896	782	1,113	784	1,111	1,150	746
2004	1,947	797	1,150	807	1,140	1,180	767
2005	1,987	808	1,179	825	1,162	1,205	783
2006	2,009	812	1,197	835	1,173	1,217	791
2007	2,026	817	1,209	846	1,180	1,229	797
2008	2,041	821	1,221	855	1,187	1,238	803
2009	2,054	825	1,230	865	1,190	1,245	809
2010	2,070	830	1,241	874	1,197	1,256	816
2011	2,102	839	1,262	893	1,208	1,274	828

NOTE: Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (See Appendix E for more details.) Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model. (This table was prepared May 2001.)

Table 21.—Total first-professional enrollment in all degree-granting institutions, by sex, attendance status, and control of institution, with alternative projections: Fall 1986 to fall 2011

(In thousands)

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
1986	270	174	96	246	24	112	158
1987	268	170	98	242	26	110	158
1988	267	167	100	241	26	109	158
1989	274	169	105	248	26	113	162
1990	273	167	107	246	28	112	162
1991	281	170	111	252	29	111	169
1992	281	169	112	252	29	111	170
1993	292	173	120	260	33	114	179
1994	295	174	120	263	31	114	181
1995	298	174	123	266	31	115	183
1996	298	173	125	267	31	117	182
1997	298	169	129	267	31	118	180
1998	302	168	134	271	31	121	182
1999	303	166	138	271	33	123	180
Middle alternative projections							
2000	298	164	135	266	33	119	179
2001	301	165	136	268	33	120	181
2002	305	166	138	271	33	121	183
2003	309	168	142	276	34	123	186
2004	314	169	144	279	34	125	189
2005	318	171	147	284	34	127	191
2006	322	172	149	287	34	129	193
2007	326	173	152	290	35	130	195
2008	329	175	154	294	35	132	197
2009	332	176	155	296	35	133	199
2010	336	179	157	300	36	134	201
2011	342	182	161	307	36	137	205
Low alternative projections							
2000	295	162	134	263	33	118	177
2001	298	164	135	266	33	119	179
2002	302	165	137	269	33	120	181
2003	306	166	140	273	34	122	184
2004	307	165	141	273	33	122	185
2005	308	166	143	275	33	123	185
2006	312	167	145	278	33	125	187
2007	316	168	147	281	34	126	189
2008	319	170	149	285	34	128	191
2009	322	171	150	287	34	129	193
2010	326	174	152	291	35	130	195
2011	332	177	156	298	35	133	199
High alternative projections							
2000	301	166	136	269	33	120	181
2001	304	166	137	270	33	121	183
2002	308	167	139	273	33	122	185
2003	312	170	144	279	34	124	188
2004	321	173	147	285	35	128	193
2005	328	176	151	293	35	131	197
2006	332	177	153	296	35	133	199
2007	336	178	157	299	36	134	201
2008	339	180	159	303	36	136	203
2009	342	181	160	305	36	137	205
2010	346	184	162	309	37	138	207
2011	352	187	166	316	37	141	211

NOTE: Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (See Appendix E for more details.) Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model. (This table was prepared May 2001.)

Table 22.—Toal full-time-equivalent enrollment in all degree-granting institutions, by control and type of institution, with alternative projections: Fall 1986 to fall 2011

(In thousands)

Year	Total	Public		Private	
		4-year	2-year	4-year	2-year
1986	9,064	4,296	2,482	2,066	220
1987	9,229	4,396	2,542	2,091	201
1988	9,466	4,505	2,591	2,160	209
1989	9,783	4,620	2,752	2,195	216
1990	9,985	4,740	2,818	2,230	197
1991	10,363	4,796	3,067	2,287	212
1992	10,438	4,798	3,114	2,332	194
1993	10,353	4,765	3,046	2,356	184
1994	10,349	4,749	3,035	2,390	176
1995	10,337	4,757	2,994	2,418	168
1996	10,482	4,768	3,028	2,467	219
1997	10,615	4,813	3,056	2,525	220
1998	10,699	4,870	3,011	2,599	220
1999	10,944	4,944	3,075	2,694	229
		Middle alternative projections			
2000	11,018	5,002	3,144	2,647	225
2001	11,286	5,130	3,213	2,712	232
2002	11,454	5,210	3,256	2,755	235
2003	11,683	5,319	3,314	2,810	239
2004	11,891	5,414	3,372	2,861	244
2005	12,068	5,498	3,418	2,905	248
2006	12,264	5,590	3,469	2,952	252
2007	12,452	5,679	3,519	2,998	257
2008	12,671	5,779	3,579	3,050	262
2009	12,882	5,879	3,634	3,102	267
2010	13,055	5,966	3,675	3,145	270
2011	13,241	6,058	3,715	3,196	273
		Low alternative projections			
2000	10,908	4,952	3,113	2,621	223
2001	11,184	5,084	3,184	2,688	230
2002	11,351	5,163	3,227	2,730	233
2003	11,554	5,260	3,278	2,779	236
2004	11,629	5,295	3,298	2,798	239
2005	11,706	5,333	3,315	2,818	241
2006	11,896	5,422	3,365	2,863	244
2007	12,078	5,509	3,413	2,908	249
2008	12,291	5,606	3,472	2,959	254
2009	12,496	5,703	3,525	3,009	259
2010	12,663	5,787	3,565	3,051	262
2011	12,844	5,876	3,604	3,100	265
		High alternative projections			
2000	11,128	5,052	3,175	2,673	227
2001	11,388	5,176	3,242	2,736	234
2002	11,557	5,257	3,285	2,780	237
2003	11,812	5,378	3,350	2,841	242
2004	12,153	5,533	3,446	2,924	249
2005	12,430	5,663	3,521	2,992	255
2006	12,632	5,758	3,573	3,041	260
2007	12,826	5,849	3,625	3,088	265
2008	13,051	5,952	3,686	3,142	270
2009	13,268	6,055	3,743	3,195	275
2010	13,447	6,145	3,785	3,239	278
2011	13,638	6,240	3,826	3,292	281

NOTE: Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (See Appendix E for more details.) Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys; Integrated Postsecondary Education Data System (IPEDS) surveys; and Enrollment in Degree-Granting Institutions Model. (This table was prepared May 2001.)

Chapter 3

High School Graduates

National

The number of high school graduates is projected to increase 11 percent over the projection period. Increases in the number of graduates are expected for both public and private schools. The significant rise in the number of graduates reflects the increase in the 18-year-old population over the projection period, rather than changes in the graduation rates of 12th graders (figure 34).

However, projections of graduates could be impacted by changes in policies affecting graduation requirements. Projections of public high school graduates that have been produced over the past 18 years are less accurate than projections of public elementary and secondary enrollment, but more accurate than projections of earned degrees by level. For more information, see table A2, page 97.

Total High School Graduates

A high school graduate is defined as an individual who has received formal recognition from school authorities, by the granting of a diploma, for completing a prescribed course of studies at the secondary school level. This definition does not include other high school completers, high school equivalency recipients, or other diploma recipients.

The number of high school graduates from public and private schools increased from 2.6 million in 1985–86 to 2.8 million in 1987–88 (table 23 and figure 35). Then, it decreased to 2.5 million in 1993–94, before increasing to 2.8 million in 1998–99. The total number of high school graduates is projected to rise to 3.1 million by 2010–11, an increase of 11 percent from 1998–99.

High School Graduates, by Control of Institution

The number of graduates of public high schools increased from 2.4 million in 1985–86 to 2.5 million in 1987–88 (table 23 and figure 36). Then, it decreased to 2.2 million in 1993–94, before rising to 2.5 million in 1998–99. Over the projection period, public high school graduates are projected to increase to 2.8 million by 2010–11, an increase of 11 percent from 1998–99.

The number of graduates of private high schools is projected to increase from an estimated 273,000 in 1998–99 to 298,000 by 2010–11, an increase of 9 percent.

State

The expected 11 percent increase in public high school graduates will be reflected in many states, with 28 states showing increases (table 25 and figure 38). Projected trends in the number of public high school graduates by state could be impacted by changes in policies affecting graduation requirements.

The number of public high school graduates in the Northeast is expected to increase 11 percent between 1998–99 and 2010–11 (table 25 and figure 39). Large increases are expected in Connecticut (25 percent), Massachusetts (18 percent), New Hampshire (12 percent), and New Jersey (24 percent). Smaller increases are expected in New York (8 percent), Pennsylvania (3 percent), and Rhode Island (10 percent). Decreases are projected for Maine (9 percent) and Vermont (9 percent).

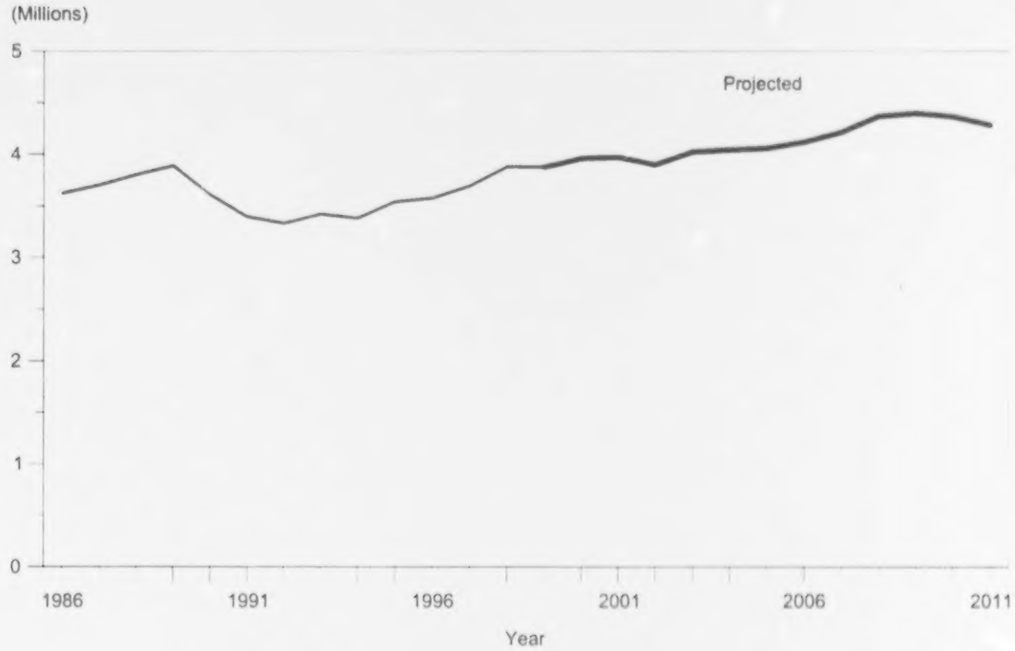
The number of public high school graduates in the Midwest is expected to increase by 2 percent between 1998–99 and 2010–11. Increases are expected in Illinois (18 percent), Indiana (3 percent), Michigan (3 percent), and Missouri (4 percent). Decreases are expected in Iowa (4 percent), Kansas (3 percent), Minnesota (0.9 percent), Nebraska (10 percent), North Dakota (22 percent), Ohio (2 percent), South Dakota (23 percent), and Wisconsin (3 percent).

Between 1998–99 and 2010–11, the number of public high school graduates in the South will increase by 12 percent. Increases are expected in Delaware (7 percent), District of Columbia (18 percent), Florida (28 percent), Georgia (28 percent), Maryland (17 percent), North Carolina (28 percent), Tennessee (16 percent), Texas (15 percent), and Virginia (17 percent). Decreases are expected in Alabama (3 percent), Arkansas (5 percent), Kentucky (6 percent), Louisiana (9 percent), Mississippi (2 percent), Oklahoma (8 percent), South Carolina (0.7 percent), and West

Virginia (18 percent).

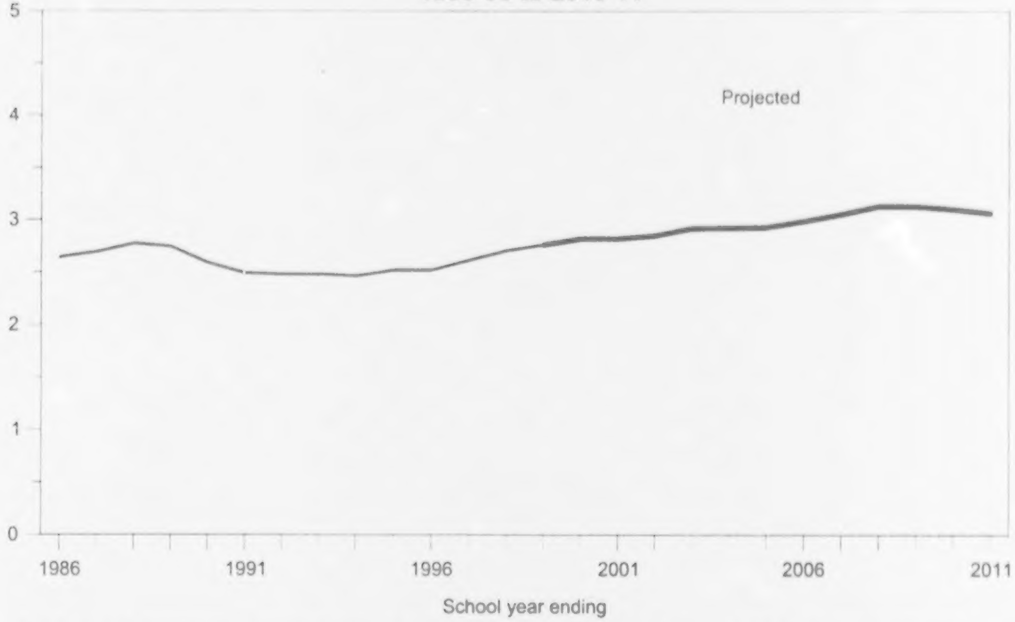
The number of high school graduates in the West is expected to increase, rising by 20 percent. The largest increases are expected in Arizona (40 percent), California (26 percent), Colorado (21 percent), and Nevada (75 percent). Other increases are projected in Alaska (8 percent), Idaho (2 percent), Oregon (6 percent), and Washington (8 percent). Decreases are projected for Hawaii (4 percent), Montana (16 percent), New Mexico (4 percent), Utah (5 percent), and Wyoming (27 percent).

Figure 34.--Eighteen-year-old population, with projections: 1986 to 2011



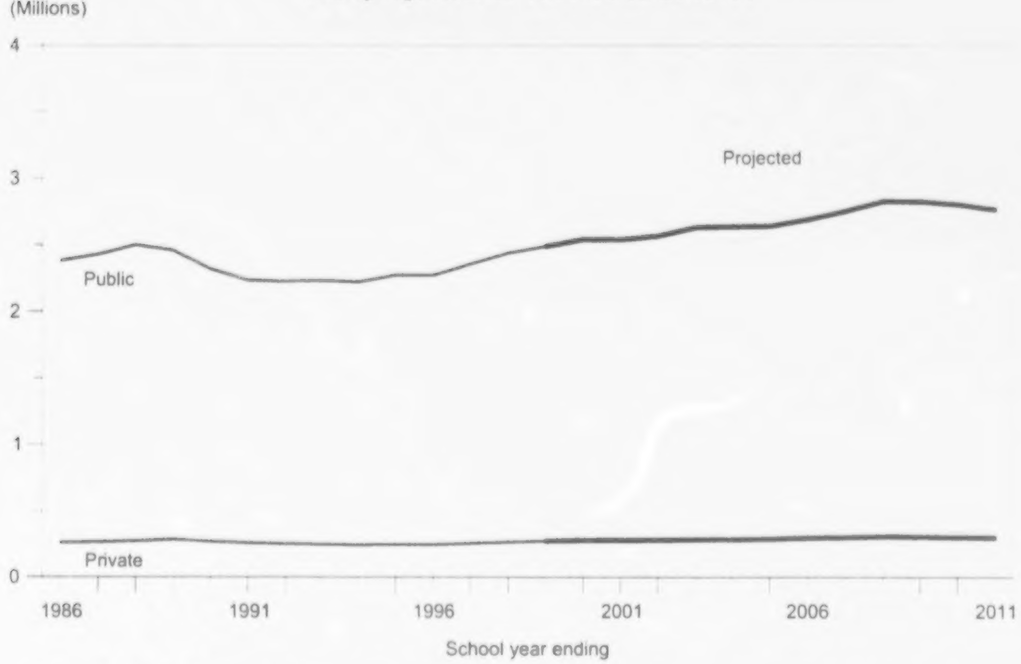
SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092, 1095, and "National Population Estimates," June 1999, and "Annual Projections of the Total Resident Population: 1999 to 2100," January 2000.

Figure 35.--High school graduates, with projections: 1985-86 to 2010-11



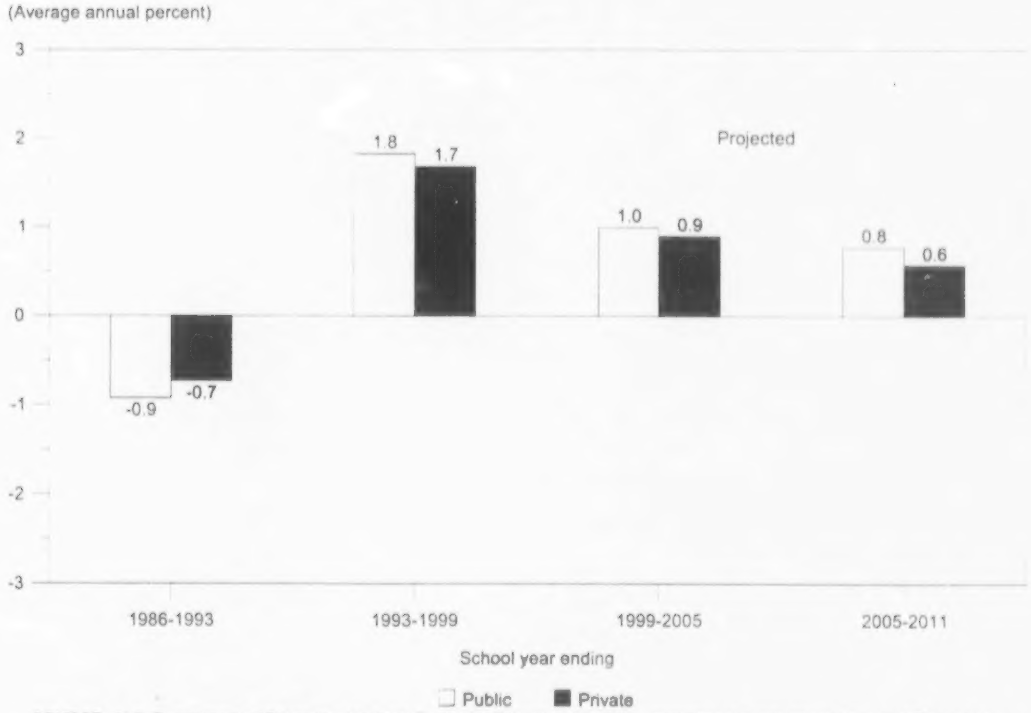
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; 1985 Private School Survey; *Private School Universe Survey, 1995-96*; *Public and Private Elementary and Secondary Education Statistics, Early Estimates*; and National Elementary and Secondary High School Graduates Model.

Figure 36.--High school graduates, by control of institution, with projections: 1985-86 to 2010-11



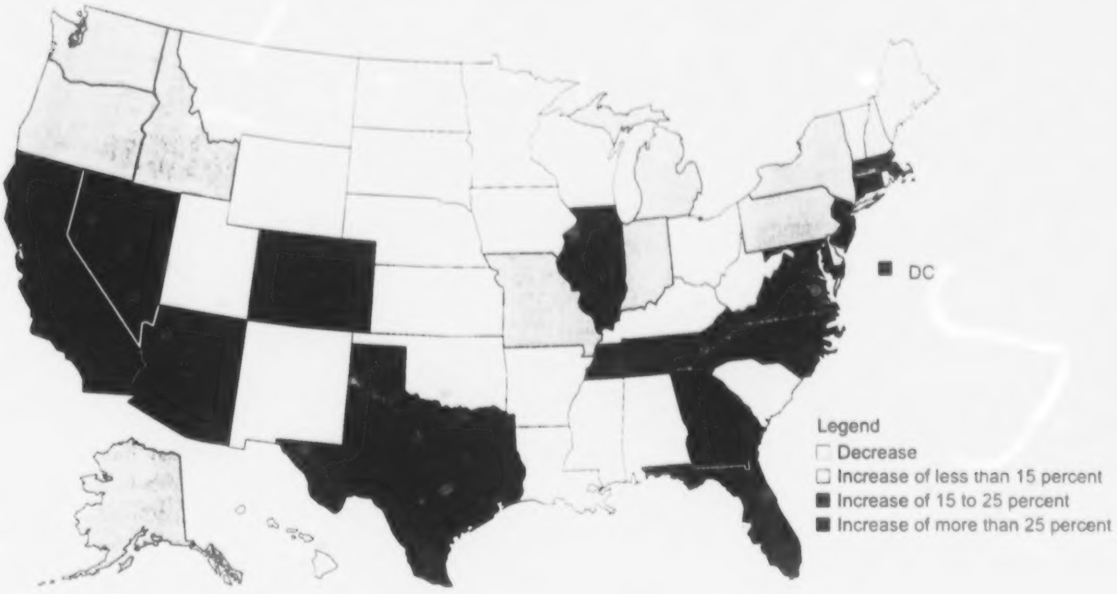
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; 1985 Private School Survey; *Private School Universe Survey, 1995-96*; *Public and Private Elementary and Secondary Education Statistics, Early Estimates*; and National Elementary and Secondary High School Graduates Model.

Figure 37.--Average annual rates of change for high school graduates: 1985-86 to 2010-11



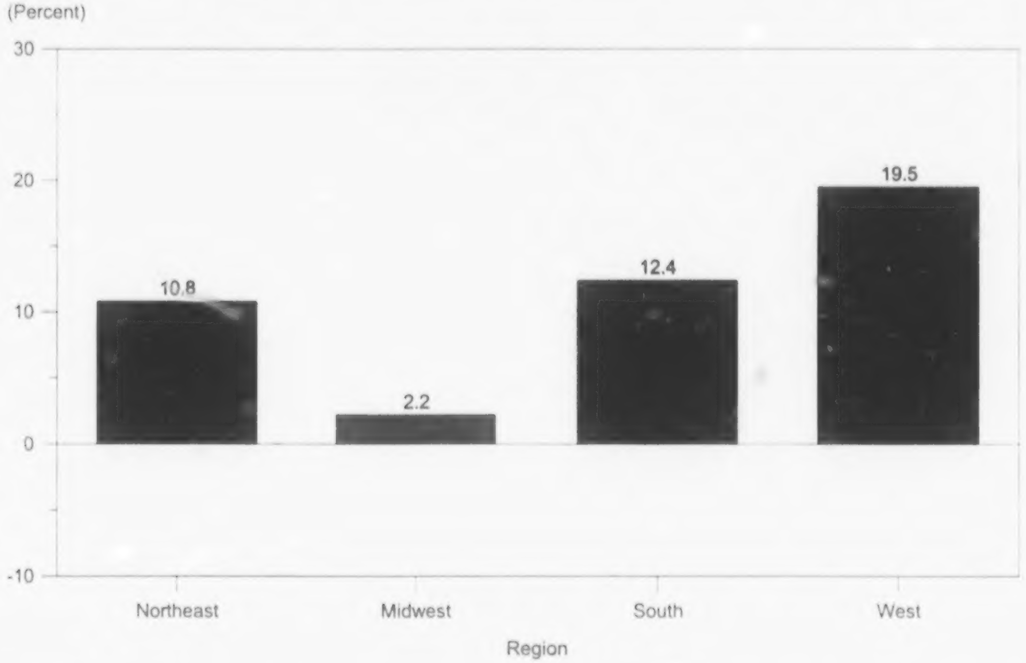
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; 1985 Private School Survey; *Private School Universe Survey, 1995-96*; *Public and Private Elementary and Secondary Education Statistics, Early Estimates*; and National Elementary and Secondary High School Graduates Model.

Figure 38.--Percent change in number of public high school graduates, by state: 1998-99 to 2010-11


DC
Legend
☐ Decrease
☐ Increase of less than 15 percent
■ Increase of 15 to 25 percent
■ Increase of more than 25 percent

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys; and State Public High School Graduates Model.

Figure 39.--Percent change in number of public high school graduates, by region: 1998-99 to 2010-11



SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys; and State Public High School Graduates Model.

BEST COPY AVAILABLE

Table 23.—High school graduates, by control of institution, with projections: 1985–86 to 2010–11

(In thousands)

Year ending	Total	Public	Private
1986 [1]	2,643	2,383	260
1987 [1]	2,694	2,429	265
1988 [1]	2,773	2,500	273
1989 [2]	2,744	2,459	285
1990 [3]	2,589	2,320	269
1991 [2]	2,493	2,235	258
1992 [3]	2,478	2,226	252
1993 [2]	2,481	2,233	247
1994 [3]	2,464	2,221	243
1995 [2]	2,519	2,274	246
1996 [3]	2,518	2,273	245
1997 [2]	2,612	2,358	254
1998 [3]	2,704	2,439	265
1999 [2]	2,762	2,489	273
		Projected	
2000	2,820	2,543	277
2001	2,820	2,541	279
2002	2,849	2,568	280
2003	2,916	2,632	285
2004	2,921	2,636	285
2005	2,929	2,641	288
2006	2,986	2,691	295
2007	3,054	2,753	300
2008	3,132	2,826	306
2009	3,127	2,823	304
2010	3,103	2,802	301
2011	3,063	2,765	298

[1] Private school numbers are estimated on the basis of past data.

[2] Private school numbers are from the Private School Universe Survey.

[3] Private school numbers are interpolated.

NOTE: Some data have been revised from previously published figures. Prior to 1989–90, numbers for private high school graduates were estimated by NCES. Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; 1985 Private School Survey; Private School Universe Survey, 1995–96; *Public and Private Elementary and Secondary Education Statistics, Early Estimates;* and National High School Graduates Model. (This table was prepared May 2001.)

Table 24.—High school graduates in public schools, by region and state, with projections: 1992–93 to 2010–11

Region and state	Actual							Projected		
	1992–93	1993–94	1994–95	1995–96	1996–97	1997–98	1998–99	1999–2000	2000–01	2001–02
United States	2,233,241	2,220,849	2,273,541	2,273,109	2,358,403	2,439,050	2,488,605	2,543,000	2,541,130	2,568,310
Northeast	413,955	408,755	413,417	417,843	432,280	430,450	437,261	447,220	443,890	452,450
Connecticut	26,799	26,330	26,445	26,319	27,029	27,885	28,284	29,600	30,540	31,660
Maine	12,103	11,384	11,501	11,795	12,019	12,171	12,093	12,140	12,400	12,580
Massachusetts	48,321	47,453	47,679	47,993	49,008	50,452	51,465	52,460	53,590	55,120
New Hampshire	10,065	9,933	10,145	10,094	10,487	10,843	11,251	11,850	12,110	12,210
New Jersey	67,134	66,125	67,403	67,704	70,028	65,106	67,410	69,160	68,580	70,600
New York	132,963	132,708	132,401	134,401	140,861	138,531	139,426	141,840	136,070	140,470
Pennsylvania	103,715	101,958	104,146	105,981	108,817	110,919	112,632	115,030	115,090	114,050
Rhode Island	7,640	7,450	7,826	7,689	7,850	8,074	8,179	8,540	8,550	8,650
Vermont	5,215	5,414	5,871	5,867	6,181	6,469	6,521	6,600	6,960	7,110
Midwest	588,810	578,914	596,753	592,775	614,217	640,857	645,266	651,200	642,870	646,130
Illinois	103,628	102,126	105,164	104,626	110,170	114,611	112,556	114,820	111,640	116,260
Indiana	57,559	54,650	56,058	56,330	57,463	58,899	58,908	58,920	57,920	57,770
Iowa	30,677	30,247	31,268	31,689	32,986	34,189	34,378	34,360	34,020	33,770
Kansas	24,720	25,319	26,125	25,786	26,648	27,856	28,685	29,240	29,590	29,380
Michigan	85,302	83,385	84,628	85,530	89,695	92,732	94,125	94,710	93,260	94,430
Minnesota	48,002	47,514	49,354	50,481	48,193	54,628	56,964	58,510	57,290	58,270
Missouri	46,864	46,566	48,862	49,011	50,543	52,095	52,531	52,450	53,600	53,530
Nebraska	17,569	17,072	17,969	18,014	18,636	19,719	20,550	20,460	20,030	20,070
North Dakota	7,310	7,522	7,817	8,027	8,025	8,170	8,388	8,630	8,440	8,190
Ohio	109,200	107,700	109,418	102,098	107,422	111,211	111,112	111,630	110,220	107,740
South Dakota	7,952	8,442	8,355	8,532	9,247	9,140	8,757	9,030	8,580	8,620
Wisconsin	50,027	48,371	51,735	52,651	55,189	57,607	58,312	58,440	58,280	58,100
South	754,670	748,079	770,737	766,273	789,143	821,372	835,417	852,900	856,450	863,680
Alabama	36,007	34,447	36,268	35,043	35,611	38,089	36,244	36,000	35,770	35,950
Arkansas	25,655	24,990	24,636	25,094	25,146	26,855	26,896	26,990	26,930	26,780
Delaware	5,492	5,230	5,234	5,609	5,953	6,439	6,484	6,100	6,320	6,180
District of Columbia	3,136	3,207	2,974	2,696	2,853	2,777	2,675	2,830	2,860	2,720
Florida	89,428	88,032	89,827	89,242	95,082	98,498	102,386	105,220	106,610	111,640
Georgia	57,602	56,356	56,660	56,271	58,996	58,525	59,227	62,110	63,290	64,760
Kentucky	36,361	38,454	37,626	36,641	36,941	37,270	37,179	37,010	36,910	35,870
Louisiana	33,682	34,822	36,480	36,467	36,495	38,030	37,802	38,220	37,450	36,820
Maryland	39,523	39,091	41,387	41,785	42,856	44,555	46,214	48,280	49,240	50,260
Mississippi	23,597	23,379	23,837	23,032	23,388	24,502	24,198	24,130	24,160	23,500
North Carolina	60,460	57,738	59,540	57,014	57,886	59,292	60,081	62,140	62,990	63,520
Oklahoma	30,542	31,872	33,319	33,060	33,536	35,213	36,556	37,450	37,060	36,440
South Carolina	31,297	30,603	30,680	30,182	30,829	31,373	31,495	31,560	28,890	30,480
Tennessee	44,166	40,643	43,556	43,792	41,617	39,866	40,823	44,470	44,880	45,030
Texas	160,546	163,191	170,322	171,844	181,794	197,186	203,393	205,660	208,960	209,740
Virginia	56,948	56,140	58,260	58,166	60,587	62,738	63,875	65,240	65,630	66,380
West Virginia	20,228	19,884	20,131	20,335	19,573	20,164	19,889	19,490	18,500	17,610
West	475,806	485,101	492,634	496,218	522,763	546,371	570,661	591,680	597,920	606,050
Alaska	5,535	5,747	5,765	5,945	6,133	6,462	6,810	6,900	6,840	7,290
Arizona	31,747	31,799	30,989	30,008	34,082	36,361	35,728	38,280	38,850	39,520
California	249,320	253,083	255,200	259,071	269,071	282,897	299,221	312,320	316,910	322,250
Colorado	31,839	31,867	32,409	32,608	34,231	35,794	36,958	38,610	39,010	39,870
Hawaii	8,854	9,369	9,407	9,387	8,929	9,670	9,714	9,980	9,970	9,820
Idaho	12,974	13,281	14,198	14,667	15,407	15,523	15,716	16,260	16,200	16,180
Montana	9,389	9,601	10,134	10,139	10,322	10,656	10,925	10,880	10,730	10,820
Nevada	9,042	9,485	10,038	10,374	12,425	13,052	13,892	14,640	14,980	15,640
New Mexico	15,172	14,892	14,928	15,402	15,700	16,529	17,317	17,380	17,400	17,110
Oregon	26,301	26,338	26,713	26,570	27,720	27,754	28,245	29,650	30,380	30,440
Utah	24,197	26,407	27,670	26,293	30,753	31,567	31,574	31,910	30,870	30,420
Washington	45,262	47,235	49,294	49,862	51,609	53,679	58,213	58,520	59,590	60,630
Wyoming	6,174	5,997	5,889	5,892	6,381	6,427	6,348	6,350	6,190	6,060

Table 24.—High school graduates in public schools, by region and state, with projections: 1992–93 to 2010–11—Continued

Region and state	Projected								
	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
United States	2,631,810	2,636,330	2,640,630	2,690,920	2,753,280	2,825,800	2,823,510	2,802,130	2,764,800
Northeast	466,000	472,470	477,500	490,630	500,830	508,730	504,430	495,020	484,410
Connecticut	32,200	33,070	33,840	34,850	35,810	36,420	36,240	35,720	35,370
Maine	12,860	12,850	12,410	12,500	12,350	12,270	11,890	11,680	11,050
Massachusetts	57,810	58,040	59,460	60,920	62,800	63,990	62,930	61,930	60,450
New Hampshire	12,970	12,900	13,260	13,310	13,550	13,750	13,370	13,310	12,600
New Jersey	72,050	74,510	76,870	80,420	83,510	84,900	85,040	84,060	83,440
New York	145,720	145,860	147,030	152,040	155,080	157,970	156,910	153,540	150,760
Pennsylvania	116,710	119,450	118,840	120,640	121,440	123,160	122,060	119,130	115,830
Rhode Island	8,730	8,900	9,050	9,250	9,460	9,630	9,510	9,450	8,980
Vermont	6,950	6,890	6,740	6,700	6,830	6,640	6,480	6,200	5,930
Midwest	660,660	657,110	648,520	653,020	668,710	684,010	681,060	671,300	659,740
Illinois	120,120	121,140	120,910	121,840	128,230	132,610	134,340	132,590	133,190
Indiana	56,920	56,680	56,400	58,880	60,570	61,870	62,370	61,750	60,470
Iowa	34,570	33,930	32,630	32,910	33,710	34,470	34,080	33,740	33,080
Kansas	29,730	29,300	28,770	28,710	28,760	29,180	28,730	28,470	27,820
Michigan	96,630	96,050	95,920	95,970	99,120	103,360	101,870	98,620	96,690
Minnesota	59,720	59,390	57,030	58,070	58,540	59,370	57,820	57,430	56,450
Missouri	54,720	54,710	53,960	54,250	55,320	56,280	57,000	57,640	54,720
Nebraska	20,500	19,890	19,350	19,060	19,120	19,780	19,280	18,910	18,470
North Dakota	8,200	7,940	7,520	7,520	7,310	7,080	6,950	6,740	6,550
Ohio	110,310	109,860	108,910	109,670	111,120	112,780	112,390	110,450	108,920
South Dakota	8,360	8,190	7,830	7,560	7,550	7,410	7,120	7,020	6,740
Wisconsin	60,880	60,030	59,290	58,580	59,360	59,820	59,110	57,940	56,640
South	886,440	882,750	887,430	901,250	922,730	942,590	947,270	947,420	938,970
Alabama	34,850	34,470	34,690	34,910	35,550	36,540	36,250	35,810	35,080
Arkansas	26,810	26,150	25,810	26,110	26,820	27,390	27,330	26,860	25,640
Delaware	6,240	6,340	6,350	6,600	6,400	6,540	6,650	6,760	6,930
District of Columbia	3,150	2,970	2,680	2,840	3,220	3,260	3,320	3,270	3,170
Florida	119,940	118,800	120,470	124,260	127,370	130,560	131,490	130,940	130,520
Georgia	65,770	66,620	67,980	69,880	72,550	75,280	75,300	75,030	75,570
Kentucky	36,900	35,620	35,680	35,350	36,890	37,730	34,930	35,710	35,140
Louisiana	36,300	36,250	35,100	34,870	34,480	34,620	34,870	34,190	34,390
Maryland	51,600	52,040	53,150	54,220	55,520	57,360	56,030	55,700	54,010
Mississippi	22,710	22,840	22,390	22,850	22,980	23,980	24,100	23,720	23,750
North Carolina	66,110	66,700	68,620	71,160	74,090	75,900	76,800	77,120	77,160
Oklahoma	36,510	35,780	35,040	34,750	35,340	35,490	35,500	35,390	33,810
South Carolina	30,870	30,940	30,770	31,460	32,300	29,730	32,360	32,050	31,290
Tennessee	45,190	44,940	44,980	45,340	46,170	47,300	48,090	48,480	47,460
Texas	215,590	215,900	217,220	219,500	222,200	227,380	230,610	233,400	233,990
Virginia	70,200	69,000	69,480	70,440	73,860	76,370	76,440	76,250	74,840
West Virginia	17,700	17,390	17,020	16,710	16,990	17,160	17,200	16,740	16,220
West	618,710	624,000	627,180	646,020	661,010	690,470	690,750	688,390	681,680
Alaska	7,460	7,580	7,490	7,680	7,720	8,000	7,880	7,870	7,370
Arizona	40,740	42,510	42,550	44,310	45,610	47,910	49,040	49,590	50,110
California	331,100	335,360	339,680	352,860	362,120	381,880	381,090	378,200	376,320
Colorado	40,780	41,360	41,610	42,210	42,920	44,350	44,750	45,300	44,860
Hawaii	9,610	9,530	9,710	9,750	9,920	10,260	9,980	9,590	9,280
Idaho	15,780	15,230	15,470	15,890	15,880	16,430	16,170	16,190	16,050
Montana	10,700	10,700	10,320	10,090	9,940	10,060	9,710	9,700	9,150
Nevada	16,850	17,540	18,410	19,510	20,710	22,450	23,330	23,970	24,260
New Mexico	17,190	17,030	16,710	16,690	17,180	17,230	17,470	17,040	16,580
Oregon	30,640	30,450	30,040	30,200	31,070	31,520	31,470	30,920	29,920
Utah	29,760	29,400	28,850	29,830	29,680	30,440	30,520	30,900	30,110
Washington	62,130	61,500	60,820	61,630	63,120	64,740	64,280	64,290	63,010
Wyoming	5,970	5,810	5,520	5,370	5,140	5,200	5,060	4,830	4,660

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys and State Public High School Graduates Model. (This table was prepared May 2001.)

Table 25.—Percent change in number of public high school graduates, by region and state, with projections: 1992–93 to 2010–11

Region and state	Actual	Projected		
	1992–93 to 1998–99	1998–99 to 2005–06	2005–06 to 2010–11	1998–99 to 2010–11
United States	11.4	6.1	4.7	11.1
Northeast	5.6	9.2	1.4	10.8
Connecticut	5.5	19.6	4.5	25.1
Maine	-0.1	2.6	-11.0	-8.6
Massachusetts	6.5	15.5	1.7	17.5
New Hampshire	11.8	17.9	-5.0	12.0
New Jersey	0.4	14.0	8.5	23.8
New York	4.9	5.5	2.5	8.1
Pennsylvania	8.6	5.5	-2.5	2.8
Rhode Island	7.1	10.6	-0.8	9.8
Vermont	25.0	3.4	-12.0	-9.1
Midwest	9.6	0.5	1.7	2.2
Illinois	8.6	7.4	10.2	18.3
Indiana	2.3	-4.3	7.2	2.7
Iowa	12.1	-5.1	1.4	-3.8
Kansas	16.0	0.3	-3.3	-3.0
Michigan	10.3	1.9	0.8	2.7
Minnesota	18.7	0.1	-1.0	-0.9
Missouri	12.1	2.7	1.4	4.2
Nebraska	17.0	-5.8	-4.5	-10.1
North Dakota	14.7	-10.3	-12.9	-21.9
Ohio	1.8	-2.0	0.0	-2.0
South Dakota	10.1	-10.6	-13.9	-23.0
Wisconsin	16.6	1.7	-4.5	-2.9
South	10.7	6.2	5.8	12.4
Alabama	0.7	-4.3	1.1	-3.2
Arkansas	4.8	-4.0	-0.7	-4.7
Delaware	18.1	-2.1	9.1	6.9
District of Columbia	-14.7	0.2	18.3	18.5
Florida	14.5	17.7	8.3	27.5
Georgia	2.8	14.8	11.2	27.6
Kentucky	2.2	-4.0	-1.5	-5.5
Louisiana	12.2	-7.1	-2.0	-9.0
Maryland	16.9	15.0	1.6	16.9
Mississippi	2.5	-7.5	6.1	-1.9
North Carolina	-0.6	14.2	12.4	28.4
Oklahoma	19.7	-4.1	-3.5	-7.5
South Carolina	0.6	-2.3	1.7	-0.7
Tennessee	-7.6	10.2	5.5	16.3
Texas	26.7	6.8	7.7	15.0
Virginia	12.2	8.8	7.7	17.2
West Virginia	-1.7	-14.4	-4.7	-18.4
West	19.9	9.9	8.7	19.5
Alaska	23.0	10.0	-1.6	8.2
Arizona	12.5	19.1	17.8	40.3
California	20.0	13.5	10.8	25.8
Colorado	16.1	12.6	7.8	21.4
Hawaii	9.7	0.0	-4.4	-4.5
Idaho	21.1	-1.6	3.7	2.1
Montana	16.4	-5.5	-11.3	-16.2
Nevada	53.6	32.5	31.8	74.6
New Mexico	14.1	-3.5	-0.8	-4.3
Oregon	7.4	6.4	-0.4	5.9
Utah	30.5	-8.6	4.4	-4.6
Washington	28.6	4.5	3.6	8.2
Wyoming	2.8	-13.0	-15.6	-26.6

NOTE: Calculations are based on unrounded numbers. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys and State Public High School Graduates Model. (This table was prepared May 2001.)

Chapter 4

Earned Degrees Conferred

Historical growth in higher education enrollment has led to a substantial increase in the number of earned degrees conferred. Just as the unprecedented rise in female enrollment contributed to the increased number of college students, so too has it boosted the number of degrees conferred. Between 1984–85 and 1997–98, the number of degrees awarded to women rose at all levels. In 1997–98, women earned the majority of associate's, bachelor's, and master's degrees, and more than two-fifths of doctor's and first-professional degrees. Over the projection period, the number of degrees awarded to women will rise at all levels. While degrees awarded to men are projected to increase at the bachelor's level, they will remain steady at the associate's, master's, doctor's, and first-professional levels.

Projections of earned degrees by level and sex were based primarily on college-age populations and college enrollment by level and by attendance status. Factors that affect future levels of earned degrees such as choice of degree, demand for occupations, etc. were not included in the projection models. NCES projections of earned degrees by level that have been produced over the last 6 years are less accurate than projections of public elementary and secondary enrollment. For more information, see table A2, page 97.

Associate's Degrees

Between 1985–86 and 1987–88, the number of associate's degrees decreased from 446,047 to 435,085. Then, it increased to 558,555 in 1997–98 (table 26 and figure 40). It is projected to increase to 625,000 by 2010–11, an increase of 12 percent from 1997–98. The number of associate's degrees awarded to men decreased from 196,166 in 1985–86 to 186,316 in 1988–89, before rising to 217,613 in 1997–98. This number is projected to increase to 226,000 by 2010–11. The number of associate's degrees awarded to women fell from 249,881 in 1985–86 to 245,038 in 1987–88. Then, it increased to 340,942 in 1997–98, an increase of 36 percent from 1985–86. This number is projected to increase to 399,000 by 2010–11, an increase of 17 percent from 1997–98.

Bachelor's Degrees

The number of bachelor's degrees increased from 987,823 in 1985–86 to 1,184,406 in 1997–98, an increase of 20 percent (table 27 and figure 41). This number is expected to increase to 1,392,000 by 2010–11, an increase of 18 percent from 1997–98. The number of bachelor's degrees awarded to men increased from 485,923 in 1985–86 to 477,203 in 1987–88. It increased to 532,881 in 1992–93. Then, this number decreased to 519,956 in 1997–98. This number is expected to decrease to 518,000 by 1998–99 and then increase to 568,000 by 2010–11, an increase of 9 percent from 1997–98. The number of bachelor's degrees awarded to women increased from 501,900 in 1985–86 to 664,450 in 1997–98, an increase of 32 percent. This number is expected to increase to 824,000 by 2010–11, an increase of 24 percent from 1997–98.

Master's Degrees

The number of master's degrees increased from 288,567 in 1985–86 to 430,164 in 1997–98, an increase of 49 percent from 1985–86 (table 28 and figure 42). This number is expected to increase to 477,000 in 2010–11. The number of master's degrees awarded to men decreased from 143,508 in 1985–86 to 141,269 in 1986–87. Then it increased to 184,375 in 1997–98. This number is projected to decrease to 178,000 in 2000–01 and then rise to 190,000 by 2010–11. The number of master's degrees awarded to women increased from 145,059 in 1985–86 to 245,789 in 1997–98. This number is expected to increase to 287,000 in 2010–11.

Doctor's Degrees

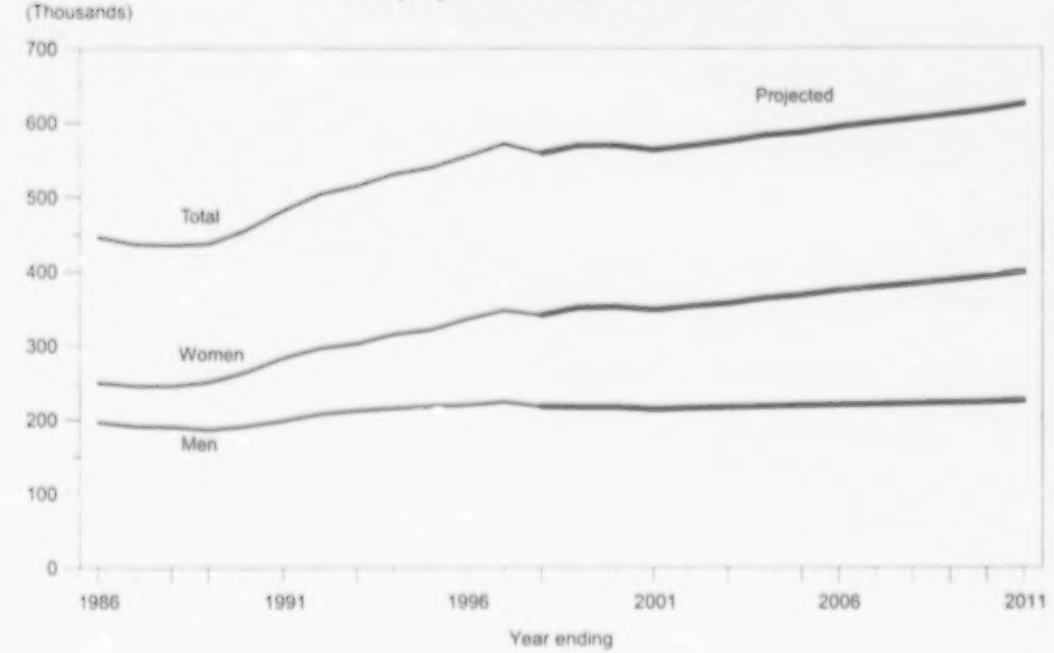
The number of doctor's degrees increased from 33,653 in 1985–86 to 46,010 in 1997–98, an increase of 37 percent (table 29 and figure 43). This number is expected to increase to 49,100 in 2010–11. The number of doctor's degrees awarded to men increased from 21,819 in 1985–86 to 26,664 in 1997–98. This number is expected to increase to 27,600 by 2010–11. The number of doctor's degrees awarded to women rose from 11,834 in 1985–86 to 19,346 in 1997–98, an increase of 63 percent. The number of doctor's degrees awarded to women is projected to be 21,500 by 2010–11. The share of doctor's degrees awarded to women, which was 35 percent in 1985–86 and 42 percent in 1997–98, is projected to be 44 percent by 2010–11.

First-Professional Degrees

A first-professional degree is one that signifies both completion of the academic requirements for beginning practice in a given profession and a level of professional skill beyond that normally required for a bachelor's degree. This degree is based on a program requiring at least 2 academic years of work before entrance and a total of at least 6 years of work to complete the degree program, including both prior required college work and the professional program itself. These degrees include fields such as dentistry, medicine, pharmacy, law, and theological professions.

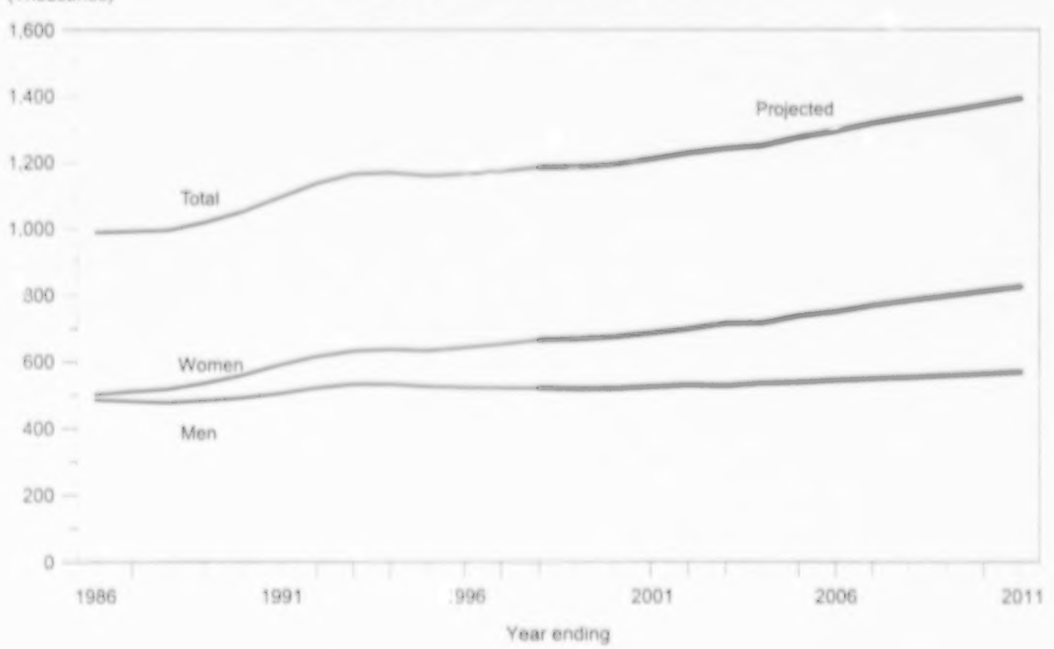
The number of first-professional degrees awarded decreased from 73,910 in 1985–86 to 70,735 in 1987–88. Then, it remained fairly steady in 1988–89 and 1989–90, before increasing to 78,598 in 1997–98 (table 30 and figure 44). This number is expected to increase to 88,300 by 2010–11. The number of first-professional degrees awarded to men decreased from 49,261 in 1985–86 to 43,846 in 1990–91. Then, it increased to 45,153 in 1992–93 and then decreased to 44,911 in 1997–98. This number is projected to increase to 46,100 by 2010–11. The number of first-professional degrees awarded to women increased from 24,649 in 1985–86 to 33,687 in 1997–98, an increase of 37 percent. This number is expected to increase to 42,200 by 2010–11, an increase of 25 percent from 1997–98. The women's proportion of first-professional degrees rose from 33 percent in 1985-86 to 43 percent in 1997–98. By 2010–11, this proportion is expected to rise to 48 percent.

Figure 40.--Associate's degrees, by sex of recipient, with projections: 1985-86 to 2010-11



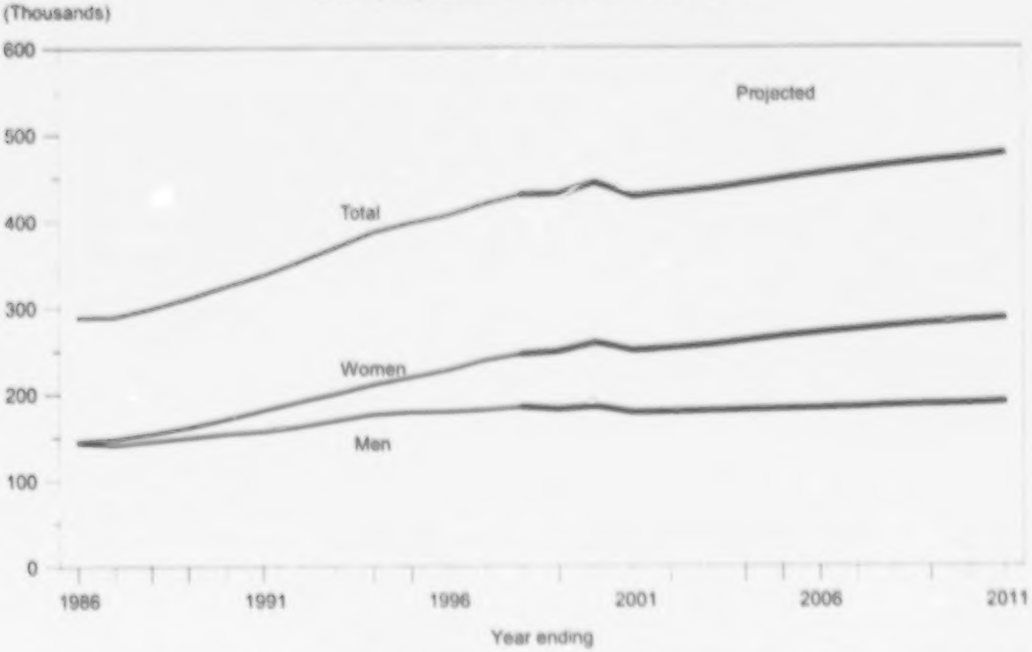
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey; Integrated Postsecondary Education Data System (IPEDS), "Completions" survey; and Earned Degrees Conferred Model.

Figure 41.--Bachelor's degrees, by sex of recipient, with projections: 1985-86 to 2010-11



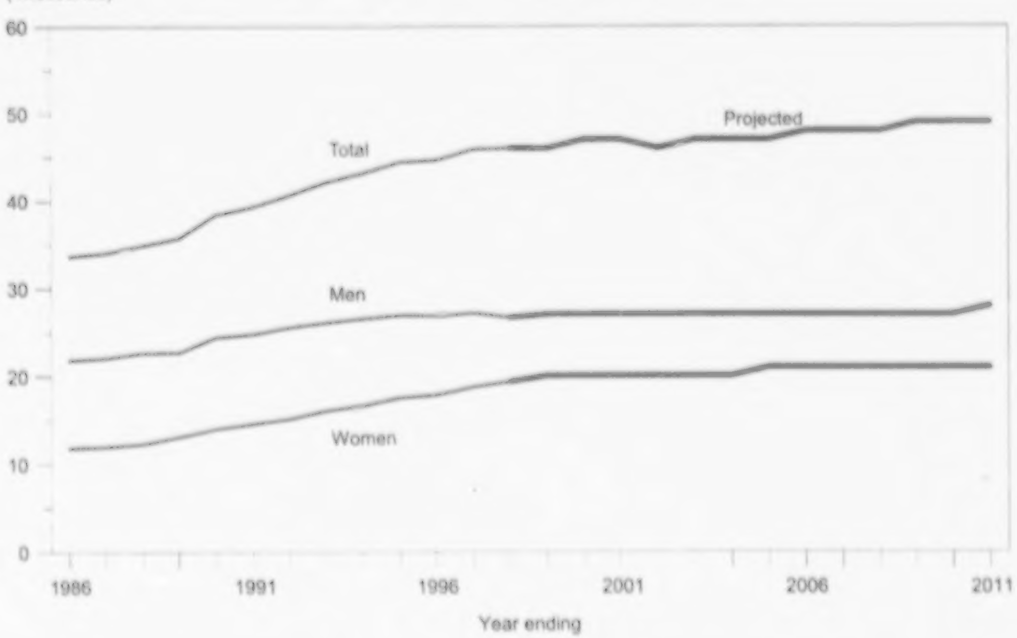
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey; Integrated Postsecondary Education Data System (IPEDS), "Completions" survey; and Earned Degrees Conferred Model.

Figure 42.--Master's degrees, by sex of recipient, with projections: 1985-86 to 2010-11



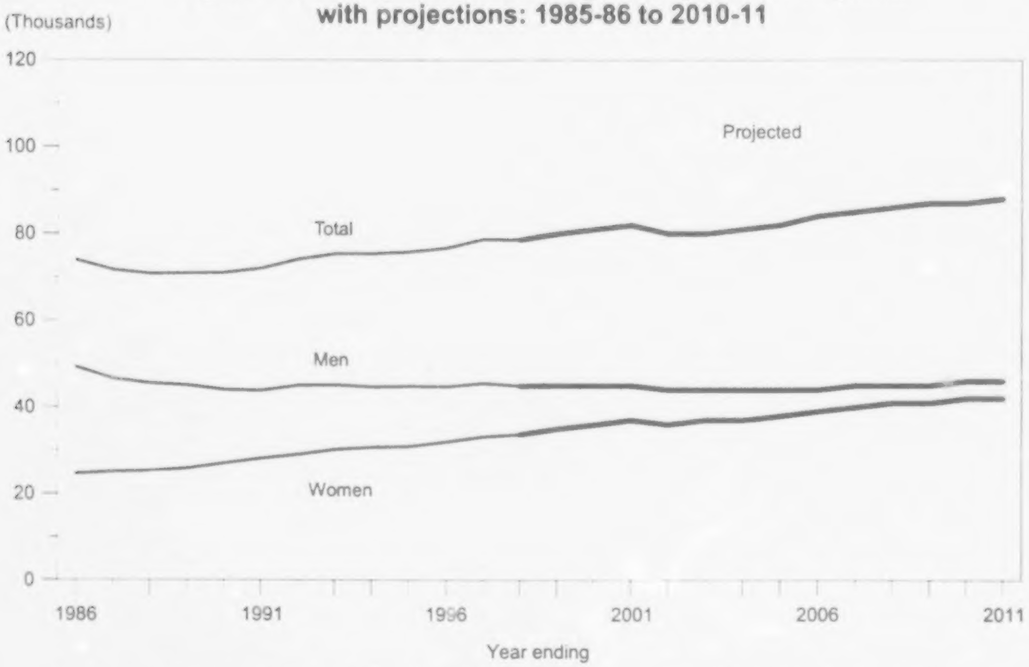
SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey; Integrated Postsecondary Education Data System (IPEDS), "Completions" survey; and Earned Degrees Conferred Model.

Figure 43.--Doctor's degrees, by sex of recipient, with projections: 1985-86 to 2010-11



SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey; Integrated Postsecondary Education Data System (IPEDS), "Completions" survey; and Earned Degrees Conferred Model.

Figure 44.--First-professional degrees, by sex of recipient, with projections: 1985-86 to 2010-11



SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey; Integrated Postsecondary Education Data System (IPEDS), "Completions" survey; and Earned Degrees Conferred Model.

Table 26.—Associate's degrees, by sex of recipient, with projections: 1985–86 to 2010–11

Year ending	Total	Men	Women
1986	446,047	196,166	249,881
1987	436,304	190,839	245,465
1988	435,085	190,047	245,038
1989	436,764	186,316	250,448
1990	455,102	191,195	263,907
1991	481,720	198,634	283,086
1992	504,231	207,481	296,750
1993	514,756	211,964	302,792
1994	530,632	215,261	315,371
1995	539,691	218,352	321,339
1996	555,216	219,514	335,702
1997	571,226	223,948	347,278
1998	558,555	217,613	340,942
	Middle alternative projections		
1999	568,000	217,000	351,000
2000	569,000	217,000	352,000
2001	562,000	214,000	348,000
2002	569,000	216,000	353,000
2003	574,000	217,000	357,000
2004	582,000	218,000	364,000
2005	587,000	219,000	368,000
2006	594,000	220,000	374,000
2007	600,000	221,000	379,000
2008	605,000	222,000	383,000
2009	611,000	223,000	388,000
2010	617,000	224,000	393,000
2011	625,000	226,000	399,000
	Low alternative projections		
1999	560,000	214,000	346,000
2000	550,000	210,000	340,000
2001	529,000	201,000	328,000
2002	537,000	204,000	333,000
2003	538,000	203,000	335,000
2004	545,000	204,000	341,000
2005	549,000	205,000	344,000
2006	556,000	206,000	350,000
2007	562,000	207,000	355,000
2008	567,000	208,000	359,000
2009	572,000	209,000	363,000
2010	578,000	210,000	368,000
2011	584,000	211,000	373,000
	High alternative projections		
1999	577,000	221,000	356,000
2000	589,000	225,000	364,000
2001	596,000	227,000	369,000
2002	602,000	229,000	373,000
2003	611,000	231,000	380,000
2004	620,000	232,000	388,000
2005	625,000	233,000	392,000
2006	632,000	234,000	398,000
2007	638,000	235,000	403,000
2008	644,000	236,000	408,000
2009	650,000	237,000	413,000
2010	657,000	239,000	418,000
2011	664,000	240,000	424,000

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey; Integrated Postsecondary Education Data System (IPEDS), "Completions" survey; and Earned Degrees Conferred Model. (This table was prepared June 2001.)

Table 27.—Bachelor's degrees, by sex of recipient, with projections: 1985–86 to 2010–11

Year ending	Total	Men	Women
1986	987,823	485,923	501,900
1987	991,264	480,782	510,482
1988	994,829	477,203	517,626
1989	1,018,755	483,346	535,409
1990	1,051,344	491,696	559,648
1991	1,094,538	504,045	590,493
1992	1,136,553	520,811	615,742
1993	1,165,178	532,881	632,297
1994	1,169,275	532,422	636,853
1995	1,160,134	526,131	634,003
1996	1,164,792	522,454	642,338
1997	1,172,879	520,515	652,364
1998	1,184,406	519,956	664,450
	Middle alternative projections		
1999	1,186,000	518,000	668,000
2000	1,193,000	519,000	674,000
2001	1,209,000	524,000	685,000
2002	1,227,000	529,000	698,000
2003	1,241,000	527,000	714,000
2004	1,251,000	535,000	716,000
2005	1,275,000	538,000	737,000
2006	1,294,000	544,000	750,000
2007	1,318,000	549,000	769,000
2008	1,337,000	553,000	784,000
2009	1,355,000	558,000	797,000
2010	1,373,000	562,000	811,000
2011	1,392,000	568,000	824,000
	Low alternative projections		
1999	1,174,000	513,000	661,000
2000	1,172,000	510,000	662,000
2001	1,193,000	517,000	676,000
2002	1,197,000	516,000	681,000
2003	1,229,000	522,000	707,000
2004	1,237,000	529,000	708,000
2005	1,262,000	533,000	729,000
2006	1,281,000	539,000	742,000
2007	1,305,000	544,000	761,000
2008	1,324,000	548,000	776,000
2009	1,341,000	552,000	789,000
2010	1,359,000	556,000	803,000
2011	1,379,000	563,000	816,000
	High alternative projections		
1999	1,197,000	523,000	674,000
2000	1,215,000	529,000	686,000
2001	1,224,000	530,000	694,000
2002	1,259,000	543,000	716,000
2003	1,254,000	533,000	721,000
2004	1,263,000	540,000	723,000
2005	1,287,000	543,000	744,000
2006	1,307,000	550,000	757,000
2007	1,331,000	555,000	776,000
2008	1,351,000	559,000	792,000
2009	1,368,000	563,000	805,000
2010	1,386,000	567,000	819,000
2011	1,406,000	574,000	832,000

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey; Integrated Postsecondary Education Data System (IPEDS), "Completions" survey; and Earned Degrees Conferred Model. (This table was prepared June 2001.)

Table 28.—Master's degrees, by sex of recipient, with projections: 1985–86 to 2010–11

Year ending	Total	Men	Women
1986	288,567	143,508	145,059
1987	289,349	141,269	148,080
1988	299,317	145,163	154,154
1989	310,621	149,354	161,267
1990	324,301	153,653	170,648
1991	337,168	156,482	180,686
1992	352,838	161,842	190,996
1993	369,585	169,258	200,327
1994	387,070	176,085	210,985
1995	397,629	178,598	219,031
1996	406,301	179,081	227,220
1997	419,401	180,947	238,454
1998	430,164	184,375	245,789
	Middle alternative projections		
1999	431,000	182,000	249,000
2000	444,000	185,000	259,000
2001	428,000	178,000	250,000
2002	432,000	179,000	253,000
2003	436,000	180,000	256,000
2004	442,000	181,000	261,000
2005	448,000	182,000	266,000
2006	453,000	183,000	270,000
2007	458,000	184,000	274,000
2008	464,000	186,000	278,000
2009	468,000	187,000	281,000
2010	472,000	188,000	284,000
2011	477,000	190,000	287,000
	Low alternative projections		
1999	426,000	180,000	246,000
2000	427,000	178,000	249,000
2001	416,000	173,000	243,000
2002	423,000	175,000	248,000
2003	427,000	176,000	251,000
2004	433,000	177,000	256,000
2005	440,000	179,000	261,000
2006	445,000	180,000	265,000
2007	449,000	180,000	269,000
2008	454,000	182,000	272,000
2009	458,000	183,000	275,000
2010	462,000	184,000	278,000
2011	467,000	186,000	281,000
	High alternative projections		
1999	435,000	184,000	251,000
2000	461,000	192,000	269,000
2001	440,000	183,000	257,000
2002	441,000	183,000	258,000
2003	445,000	183,000	262,000
2004	452,000	185,000	267,000
2005	458,000	186,000	272,000
2006	463,000	187,000	276,000
2007	468,000	188,000	280,000
2008	474,000	190,000	284,000
2009	478,000	191,000	287,000
2010	482,000	192,000	290,000
2011	487,000	194,000	293,000

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey; Integrated Postsecondary Education Data System (IPEDS), "Completions" survey; and Earned Degrees Conferred Model. (This table was prepared June 2001.)

Table 29.—Doctor's degrees, by sex of recipient, with projections: 1985–86 to 2010–11

Year ending	Total	Men	Women
1986	33,653	21,819	11,834
1987	34,041	22,061	11,980
1988	34,870	22,615	12,255
1989	35,720	22,648	13,072
1990	38,371	24,401	13,970
1991	39,294	24,756	14,538
1992	40,659	25,557	15,102
1993	42,132	26,073	16,059
1994	43,185	26,552	16,633
1995	44,446	26,916	17,530
1996	44,652	26,841	17,811
1997	45,876	27,146	18,730
1998	46,010	26,664	19,346
Middle alternative projections			
1999	46,500	26,800	19,700
2000	47,100	26,700	20,400
2001	46,700	26,900	19,800
2002	46,500	26,500	20,000
2003	46,700	26,600	20,100
2004	47,100	26,700	20,400
2005	47,500	26,900	20,600
2006	47,800	27,000	20,800
2007	48,100	27,100	21,000
2008	48,400	27,200	21,200
2009	48,700	27,400	21,300
2010	48,800	27,500	21,300
2011	49,100	27,600	21,500
Low alternative projections			
1999	45,500	26,200	19,300
2000	45,700	25,900	19,800
2001	45,500	26,200	19,300
2002	44,800	25,500	19,300
2003	45,000	25,600	19,400
2004	45,300	25,700	19,600
2005	45,800	25,900	19,900
2006	46,100	26,000	20,100
2007	46,400	26,100	20,300
2008	46,600	26,200	20,400
2009	46,900	26,400	20,500
2010	47,000	26,500	20,500
2011	47,300	26,600	20,700
High alternative projections			
1999	47,300	27,300	20,000
2000	48,400	27,400	21,000
2001	48,100	27,700	20,400
2002	48,200	27,500	20,700
2003	48,500	27,600	20,900
2004	48,800	27,700	21,100
2005	49,200	27,800	21,400
2006	49,600	28,000	21,600
2007	49,900	28,100	21,800
2008	50,200	28,200	22,000
2009	50,400	28,400	22,000
2010	50,600	28,500	22,100
2011	50,900	28,600	22,300

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey; Integrated Postsecondary Education Data System (IPEDS), "Completions" survey; and Earned Degrees Conferred Model. (This table was prepared June 2001.)

Table 30.—First-professional degrees, by sex of recipient, with projections: 1985–86 to 2010–11

Year ending	Total	Men	Women
1986	73,910	49,261	24,649
1987	71,617	46,523	25,094
1988	70,735	45,484	25,251
1989	70,856	45,046	25,810
1990	70,988	43,961	27,027
1991	71,948	43,846	28,102
1992	74,146	45,071	29,075
1993	75,387	45,153	30,234
1994	75,418	44,707	30,711
1995	75,800	44,853	30,947
1996	76,734	44,748	31,986
1997	78,730	45,564	33,166
1998	78,598	44,911	33,687
	Middle alternative projections		
1999	79,900	45,200	34,700
2000	81,000	44,800	36,200
2001	81,900	44,700	37,200
2002	80,400	44,000	36,400
2003	80,400	43,600	36,800
2004	81,300	43,900	37,400
2005	82,300	44,100	38,200
2006	83,500	44,400	39,100
2007	84,700	44,900	39,800
2008	85,700	45,200	40,500
2009	86,500	45,400	41,100
2010	87,500	45,800	41,700
2011	88,300	46,100	42,200
	Low alternative projections		
1999	78,700	44,500	34,200
2000	79,800	44,200	35,600
2001	80,700	44,100	36,600
2002	77,300	42,300	35,000
2003	77,300	41,900	35,400
2004	78,100	42,200	35,900
2005	79,200	42,400	36,800
2006	80,400	42,800	37,600
2007	81,500	43,200	38,300
2008	82,500	43,500	39,000
2009	83,300	43,700	39,600
2010	84,200	44,100	40,100
2011	85,000	44,400	40,600
	High alternative projections		
1999	81,200	45,900	35,300
2000	82,200	45,500	36,700
2001	83,100	45,400	37,700
2002	83,400	45,600	37,800
2003	83,400	45,200	38,200
2004	84,300	45,500	38,800
2005	85,500	45,800	39,700
2006	86,700	46,100	40,600
2007	87,900	46,600	41,300
2008	88,900	46,900	42,000
2009	89,900	47,200	42,700
2010	90,700	47,500	43,200
2011	91,700	47,900	43,800

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals due to rounding. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey; Integrated Postsecondary Education Data System (IPEDS), "Completions" survey; and Earned Degrees Conferred Model. (This table was prepared June 2001.)

BEST COPY AVAILABLE

Chapter 5

Elementary and Secondary Teachers

Between 1999 and 2011, the number of teachers in elementary and secondary schools is projected to rise. The increase is related to the levels of enrollments and education revenue receipts from state sources per capita. Increases are expected in the numbers of both elementary and secondary teachers. The number of secondary teachers will increase at a faster rate than the number of elementary teachers. The numbers of both public and private teachers are projected to grow. The projections do not take into account increases in the number of teachers due to the effects of initiatives to reduce class sizes.

Three alternative projections of the numbers of elementary and secondary teachers were developed to indicate a range of possible outcomes. These alternatives are based on varying economic assumptions about the growth path for one of the key variables in the public school teacher models—education revenue receipts from state sources per capita. Under the middle alternative, education revenue receipts from state sources per capita is projected to increase by 14 percent between 1999 and 2011. The low alternative assumes that education revenue receipts from state sources per capita will increase by 11 percent over the projection period. The high alternative assumes that education revenue receipts from state sources per capita will increase by 16 percent during this period. The other variables in the teacher model are elementary enrollment and secondary enrollment in public schools. Between 1999 and 2011, secondary enrollment is projected to increase by 5 percent, while elementary will decrease around 2 percent (table 2). The enrollment variables are the same for all three alternatives.

Elementary and Secondary School Teachers

The number of teachers in elementary and secondary schools increased from 2.59 million in 1986 to 3.30 million in 1999, an increase of 27 percent (table 31 and figure 45). Under the middle alternative, the number of teachers is projected to increase to 3.65 million by the year 2011, a 10-percent increase over the projection period. Under the low alternative, the number of teachers is projected to increase to 3.61 million by the year 2011. Under the high alternative, classroom teachers are projected to increase to 3.68 million by the year 2011.

The number of elementary teachers increased from 1.52 million in 1986 to 2.03 million in 1999, an increase of 33 percent (figure 47). Under the middle alternative, the number of elementary teachers is projected to increase to 2.25 million by 2011, an increase of 11 percent from 1999. Under the low alternative, the number of elementary teachers is projected to increase to 2.22 million by the year 2011. Under the high alternative, elementary teachers are projected to increase to 2.27 million by the year 2011.

The number of secondary teachers increased from 1.07 million in 1986 to 1.28 million in 1999, an increase of 19 percent. Under the middle alternative, the number of secondary teachers is projected to increase to 1.40 million by the year 2011, resulting in an increase of 10 percent. Under the low alternative, the number of secondary teachers is projected to increase to 1.39 million by the year 2011. Under the high alternative, secondary teachers are projected to increase to 1.41 million by the year 2011.

Elementary and Secondary Teachers, by Control of School

The number of teachers in public elementary and secondary schools increased from 2.24 million in 1986 to 2.91 million in 1999, an increase of 30 percent (table 31 and figure 49). Under the middle alternative, the number of teachers is projected to increase to 3.21 million by the year 2011, a 10-percent increase over the projection period. Under the low alternative, the number of classroom teachers is projected to increase to 3.17 million by the year 2011. Under the high alternative, classroom teachers are projected to increase to 3.23 million by the year 2011. Projections of elementary and secondary teachers in public schools that have been produced over the past 12 years are less accurate than projections of public elementary and secondary enrollment that NCES has published over the same period. For more information, see table A2, page 97.

The number of elementary and secondary teachers in private schools was an estimated 397,000 in 1999. Under the middle alternative, this number is projected to increase to 443,000 by the year 2011, an increase of 12 percent from 1999. Under the low alternative, the number of private school teachers is projected to increase to 438,000 by the year 2011. Under the high alternative, private school teachers are projected to increase to 447,000 by the year 2011.

Pupil/Teacher Ratios

A broad relationship between the number of pupils and teachers can be described by the pupil/teacher ratio. The pupil/teacher ratios presented in table 32 were computed based on elementary and secondary enrollment and the number of classroom teachers by control of institution.

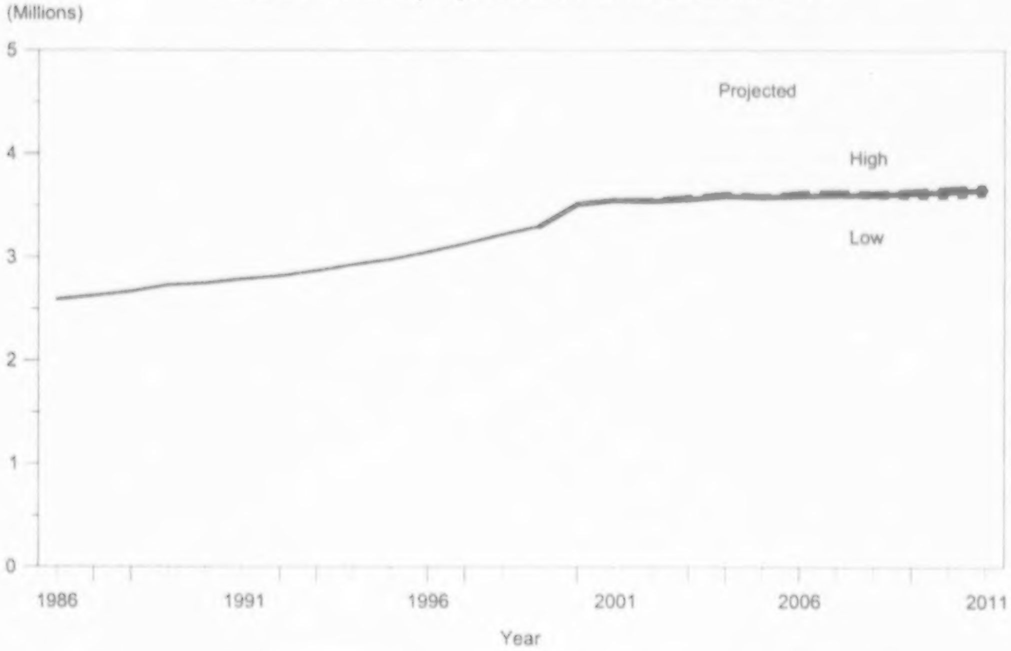
The pupil/teacher ratio in elementary and secondary schools decreased from 17.4 in 1986 to 16.7 in 1989. It increased to 17.1 in 1992 followed by a decline to 16.0 in 1999 (table 32 and figure 51). Under the middle alternative, this ratio is projected to decline to 14.5 by the year 2011. Based on the low and high alternatives, the pupil/teacher ratio in elementary and secondary schools is expected to range between 14.4 and 14.7 in the year 2011.

Although private elementary and secondary teachers represented 12 percent of total elementary and secondary teachers in 1999, private school enrollment was 11 percent of total enrollment. This indicates that private schools have more teachers for a given number of students on average than do public schools; that is, private school pupil/teacher ratios are smaller than public school pupil/teacher ratios.

The pupil/teacher ratio in public elementary and secondary schools decreased from 17.7 in 1986 to 17.2 in 1990. It increased to 17.4 in 1993 and decreased to 16.1 in 1999 (figure 52). Under the middle alternative, the pupil/teacher ratio is projected to decrease to 14.7 in 2011. Based on the low and high alternatives, the pupil/teacher ratio in public elementary and secondary schools is projected to range between 14.6 and 14.9 in the year 2011.

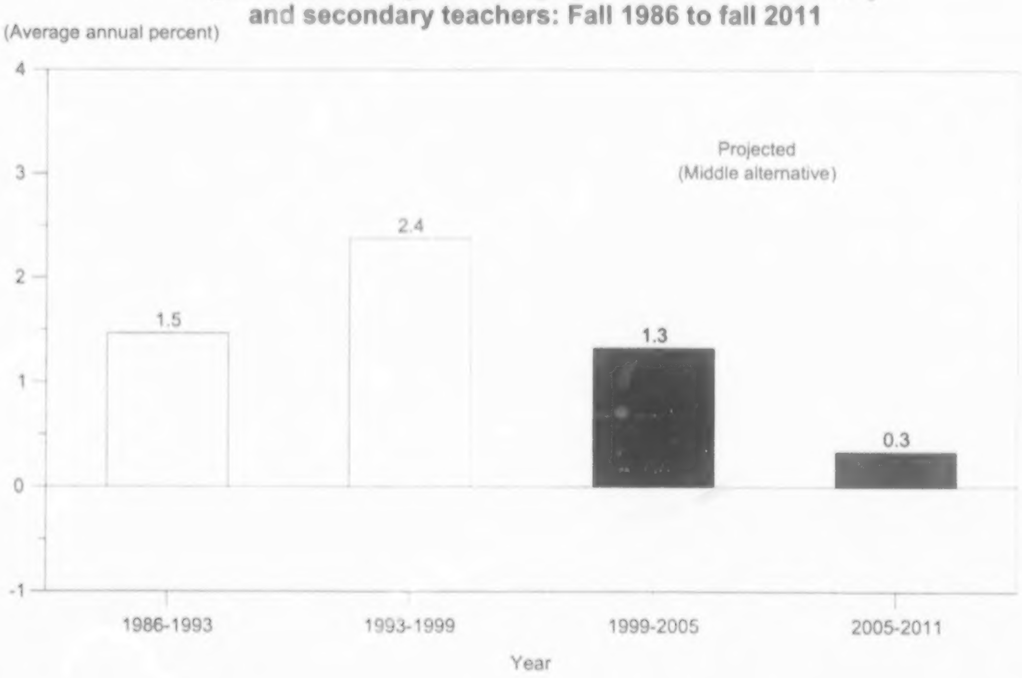
For private elementary and secondary schools, the pupil/teacher ratio decreased from 15.7 in 1986 to 13.8 in 1989. Then it increased to 15.2 in 1999. Under the middle alternative, the pupil/teacher ratio is projected to decrease to 13.2 in 2011. Based on the low and high alternatives, the pupil/teacher ratio in private elementary and secondary schools is expected to range between 13.1 and 13.4 in the year 2011.

Figure 45.--Elementary and secondary teachers, with alternative projections: Fall 1986 to fall 2011



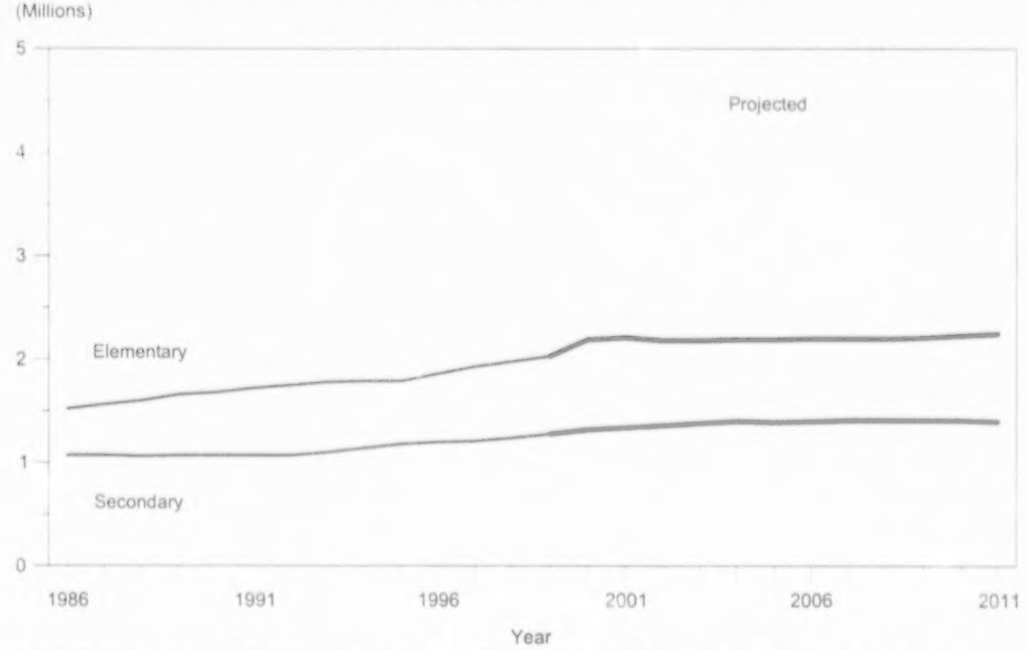
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; 1985 Private School Survey; *Private School Universe Survey, 1995-96*; *Public and Private Elementary and Secondary Education Statistics, Early Estimates*; and Elementary and Secondary Teacher Model.

Figure 46.--Average annual growth rates for elementary and secondary teachers: Fall 1986 to fall 2011



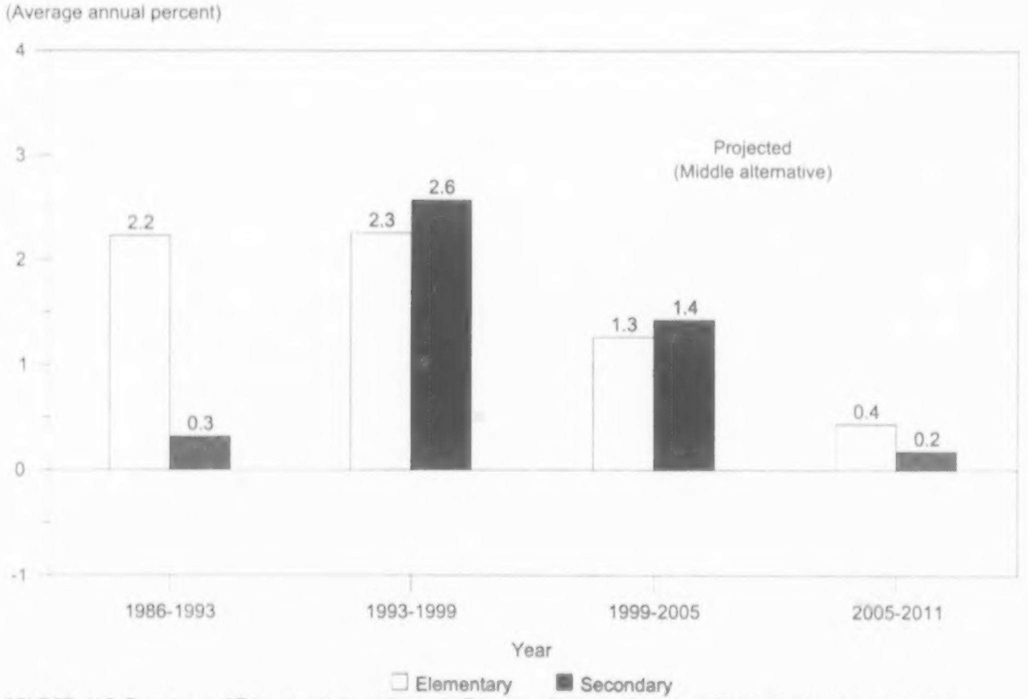
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; 1985 Private School Survey; *Private School Universe Survey, 1995-96*; *Public and Private Elementary and Secondary Education Statistics, Early Estimates*; and Elementary and Secondary Teacher Model.

Figure 47.--Elementary and secondary teachers, by organizational level, with middle alternative projections: Fall 1986 to fall 2011



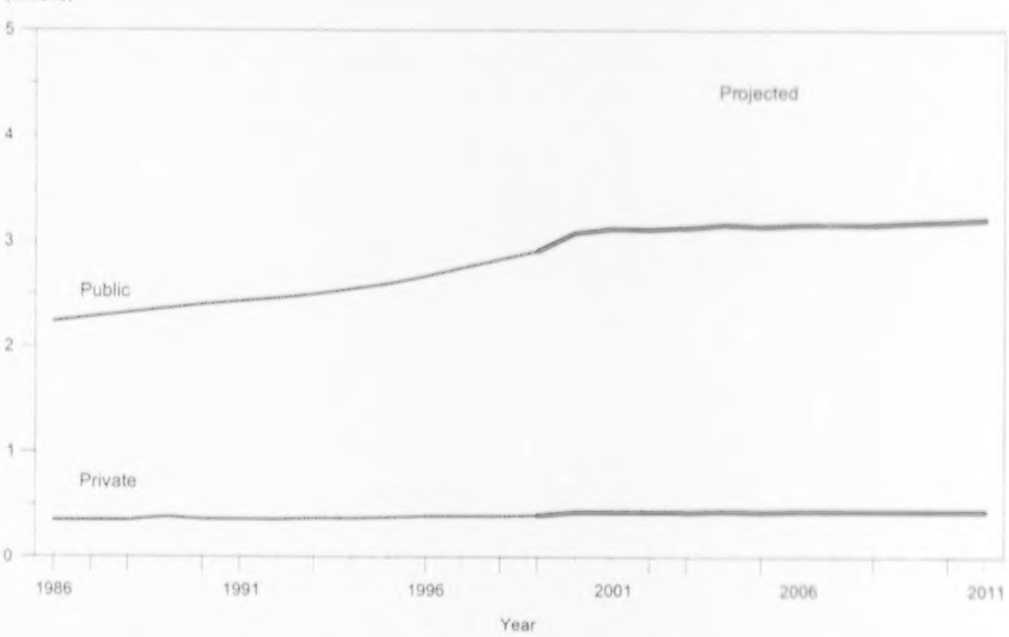
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; *Public and Private Elementary and Secondary Education Statistics, Early Estimates*; and Elementary and Secondary Teacher Model.

Figure 48.--Average annual growth rates for elementary and secondary teachers, by organizational level: Fall 1986 to fall 2011



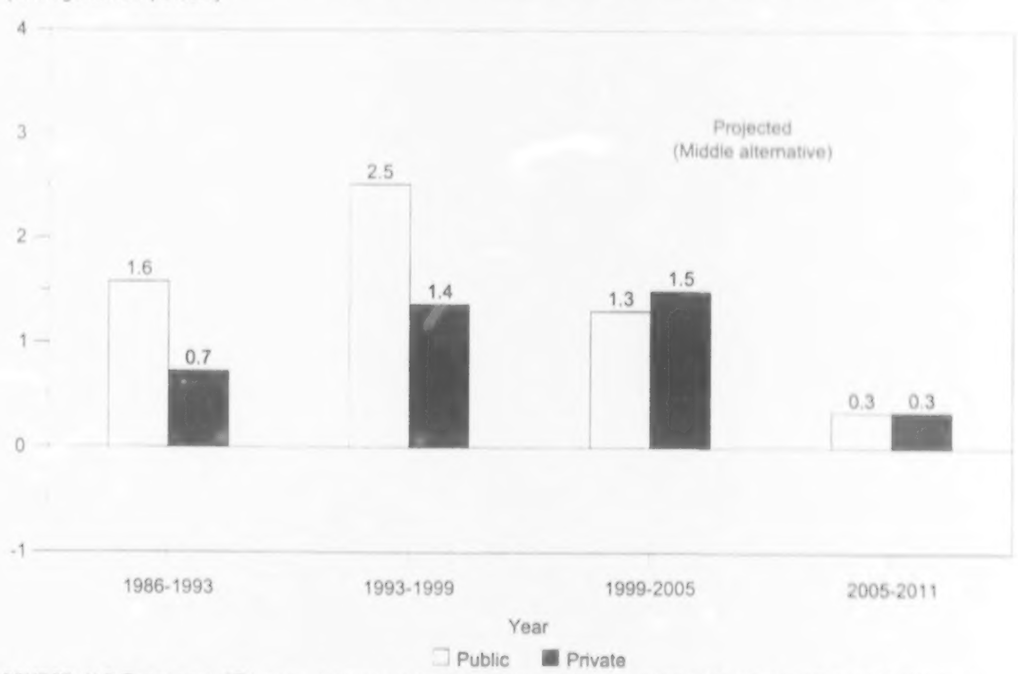
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; *Public and Private Elementary and Secondary Education Statistics, Early Estimates*; and Elementary and Secondary Teacher Model.

Figure 49.--Elementary and secondary teachers, by control of institution, with middle alternative projections: Fall 1986 to fall 2011



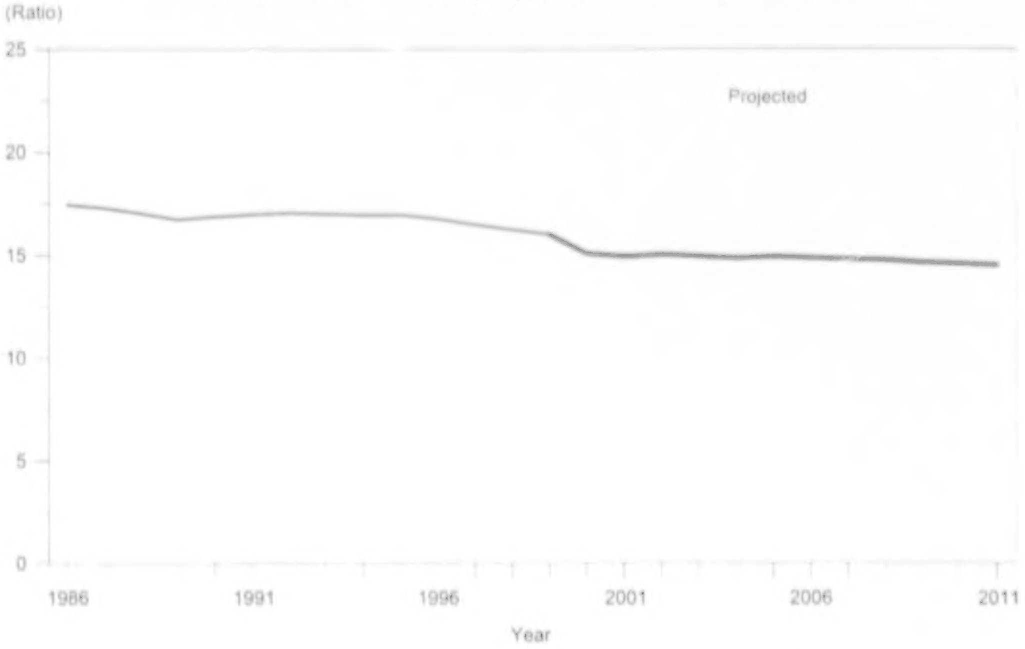
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; *Public and Private Elementary and Secondary Education Statistics, Early Estimates*; and Elementary and Secondary Teacher Model.

Figure 50.--Average annual growth rates for elementary and secondary teachers, by control of institution: Fall 1986 to fall 2011



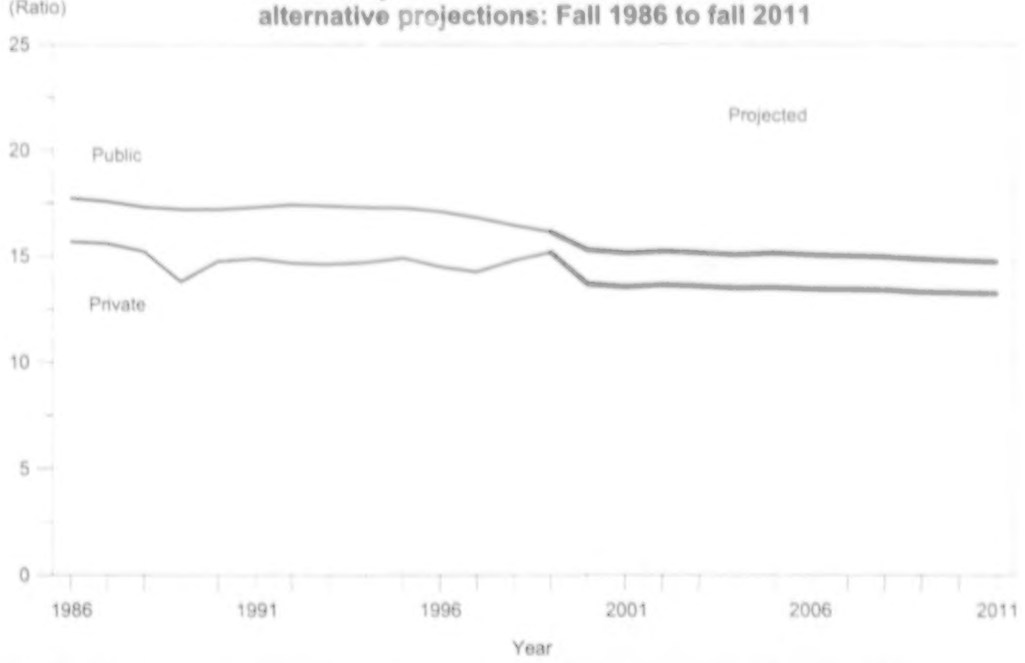
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; *Public and Private Elementary and Secondary Education Statistics, Early Estimates*; and Elementary and Secondary Teacher Model.

Figure 51.--Pupil/teacher ratios in elementary and secondary schools, with middle alternative projections: Fall 1986 to fall 2011



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; Private School Universe Survey, various years; *Public and Private Elementary and Secondary Education Statistics, Early Estimates*; and Elementary and Secondary Teacher Model.

Figure 52.--Pupil/teacher ratios in elementary and secondary schools, by control of institution, with middle alternative projections: Fall 1986 to fall 2011



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; Private School Universe Survey, various years; *Public and Private Elementary and Secondary Education Statistics, Early Estimates*; and Elementary and Secondary Teacher Model.

Table 31.—Elementary and secondary teachers, by control of institution and organizational level, with alternative projections: Fall 1986 to fall 2011

(In thousands)

Year	Total			Public			Private		
	K-12	Elementary	Secondary	K-12	Elementary	Secondary	K-12	Elementary	Secondary
1986 [1]	2,592	1,521	1,071	2,244	1,271	973	348	250	98
1987 [1]	2,631	1,563	1,068	2,279	1,306	973	352	257	95
1988 [1]	2,668	1,604	1,064	2,323	1,353	970	345	251	94
1989 [2]	2,734	1,662	1,072	2,357	1,387	970	377	275	102
1990 [2]	2,753	1,683	1,070	2,398	1,429	969	355	254	101
1991 [2]	2,787	1,722	1,065	2,432	1,468	964	355	254	101
1992 [2]	2,822	1,752	1,070	2,459	1,492	967	363	260	103
1993 [2]	2,870	1,775	1,095	2,504	1,513	991	366	262	104
1994 [2]	2,926	1,791	1,135	2,552	1,525	1,027	374	266	108
1995 [2]	2,978	1,794	1,184	2,598	1,525	1,073	380	269	111
1996 [3]	3,054	1,856	1,198	2,667	1,582	1,085	387	274	113
1997 [3]	3,134	1,928	1,206	2,746	1,653	1,093	388	275	113
1998 [3]	3,221	1,978	1,243	2,830	1,701	1,129	391	277	114
1999 [3]	3,304	2,029	1,275	2,907	1,748	1,159	397	281	116
				Middle alternative projections					
2000	3,507	2,192	1,315	3,080	1,885	1,194	428	307	121
2001	3,551	2,208	1,343	3,119	1,899	1,220	432	309	123
2002	3,541	2,180	1,361	3,111	1,875	1,236	430	305	125
2003	3,564	2,184	1,381	3,132	1,878	1,254	432	306	127
2004	3,590	2,188	1,402	3,155	1,881	1,274	435	306	129
2005	3,576	2,188	1,388	3,142	1,881	1,261	434	306	127
2006	3,594	2,196	1,398	3,159	1,889	1,270	436	308	128
2007	3,600	2,195	1,406	3,164	1,887	1,277	436	307	129
2008	3,600	2,195	1,405	3,164	1,888	1,276	436	307	129
2009	3,619	2,209	1,410	3,180	1,900	1,280	439	309	129
2010	3,633	2,228	1,405	3,192	1,916	1,276	441	312	129
2011	3,649	2,246	1,403	3,206	1,932	1,274	443	315	129
				Low alternative projections					
2000	3,507	2,192	1,315	3,080	1,885	1,194	428	307	121
2001	3,553	2,210	1,343	3,120	1,900	1,220	433	309	123
2002	3,537	2,176	1,361	3,108	1,871	1,236	430	305	125
2003	3,566	2,185	1,381	3,134	1,879	1,254	433	306	127
2004	3,604	2,201	1,403	3,167	1,893	1,275	437	308	129
2005	3,585	2,200	1,385	3,150	1,892	1,258	435	308	127
2006	3,593	2,193	1,400	3,157	1,886	1,272	435	307	128
2007	3,595	2,179	1,417	3,160	1,873	1,287	435	305	130
2008	3,588	2,173	1,415	3,154	1,869	1,285	434	304	130
2009	3,591	2,184	1,407	3,156	1,878	1,278	435	306	129
2010	3,593	2,201	1,392	3,157	1,893	1,264	436	308	128
2011	3,607	2,222	1,385	3,169	1,911	1,258	438	311	127
				High alternative projections					
2000	3,507	2,192	1,315	3,080	1,885	1,194	428	307	121
2001	3,552	2,209	1,343	3,119	1,899	1,220	432	309	123
2002	3,545	2,184	1,361	3,114	1,878	1,236	431	306	125
2003	3,581	2,200	1,381	3,146	1,892	1,254	435	308	127
2004	3,605	2,202	1,403	3,168	1,894	1,274	437	308	129
2005	3,588	2,196	1,392	3,152	1,888	1,264	435	308	128
2006	3,619	2,207	1,412	3,180	1,898	1,282	439	309	129
2007	3,625	2,207	1,418	3,186	1,898	1,288	439	309	130
2008	3,620	2,208	1,412	3,181	1,899	1,282	439	309	129
2009	3,642	2,223	1,418	3,200	1,912	1,288	441	311	130
2010	3,661	2,245	1,415	3,216	1,931	1,285	444	314	130
2011	3,681	2,268	1,413	3,234	1,950	1,284	447	318	130

[1] Private school numbers are estimated on the basis on past data.

[2] Private school numbers are from the Early Estimates survey.

[3] Private school numbers are projected.

NOTE: The numbers of elementary and secondary teachers reported separately by the National Education Association were prorated to the NCES totals for each year. Some data have been revised from previously published figures. Projections are based on data through 1998.
Because of rounding, details may not add to totals. Mean absolute percentage errors of selected education statistics can be found in table A2.
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools:* Common Core of of Data surveys; *Public and Private Elementary and Secondary Education Statistics, Early Estimates;* and Elementary and Secondary Teacher Model.
(This table was prepared June 2001.)

BEST COPY AVAILABLE

Table 32.—Pupil/teacher ratios in elementary and secondary schools, by control of institution, with alternative projections: Fall 1986 to fall 2011

Year	Total	Public	Private
1986 [1]	17.4	17.7	15.7
1987 [1]	17.3	17.6	15.6
1988 [1]	17.0	17.3	15.2
1989 [2]	16.7	17.2	13.8
1990 [2]	16.9	17.2	14.7
1991 [3]	17.0	17.3	14.9
1992 [2]	17.1	17.4	14.7
1993 [3]	17.0	17.4	14.6
1994 [2]	17.0	17.3	14.7
1995 [3]	17.0	17.3	14.9
1996 [3]	16.8	17.1	14.5
1997 [3]	16.5	16.8	14.2
1998 [3]	16.2	16.4	14.8
1999 [3]	16.0	16.1	15.2
	Middle alternative projections		
2000	15.1	15.3	13.7
2001	14.9	15.1	13.5
2002	15.0	15.2	13.6
2003	15.0	15.1	13.6
2004	14.9	15.1	13.5
2005	14.9	15.1	13.5
2006	14.4	15.0	13.4
2007	14.8	15.0	13.4
2008	14.8	14.9	13.4
2009	14.6	14.8	13.3
2010	14.6	14.8	13.2
2011	14.5	14.7	13.2
	Low alternative projections (Based on high alternative projections of teachers)		
2000	15.1	15.3	13.7
2001	14.9	15.1	13.5
2002	15.0	15.2	13.6
2003	14.9	15.1	13.5
2004	14.8	15.0	13.4
2005	14.9	15.1	13.5
2006	14.7	14.9	13.3
2007	14.7	14.9	13.3
2008	14.7	14.9	13.3
2009	14.6	14.7	13.2
2010	14.5	14.7	13.2
2011	14.4	14.6	13.1
	High alternative projections (Based on low alternative projections of teachers)		
2000	15.1	15.3	13.7
2001	14.9	15.1	13.5
2002	15.0	15.2	13.6
2003	14.9	15.1	13.5
2004	14.8	15.0	13.4
2005	14.9	15.1	13.5
2006	14.9	15.1	13.5
2007	14.8	15.0	13.4
2008	14.8	15.0	13.5
2009	14.8	14.9	13.4
2010	14.7	14.9	13.4
2011	14.7	14.9	13.4

[1] Private school numbers are estimated on the basis on past data.

[2] Private school teacher numbers are from the Early Estimates survey and private school enrollment numbers are from the Private School Universe Survey.

[3] Private school numbers are projected or interpolated.

NOTE: The pupil/teacher ratios were derived from tables 2 and 31. Some data have been revised from previously published figures. Projections are based on data through 1999. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools;* Common Core of Data surveys; Private School Universe Survey, various years; *Public and Private Elementary and Secondary Education Statistics, Early Estimates;* and Elementary and Secondary Teacher Model. (This table was prepared June 2001.)

Chapter 6

Expenditures of Public Elementary and Secondary Schools

Current expenditures and average annual teacher salaries in public elementary and secondary schools are both projected to increase in constant dollars between school years 1998–99 and 2010–11 in the middle set of projections presented in this chapter with current expenditures projected to increase more rapidly. (Note that all percent changes presented in this chapter were calculated using unrounded numbers.) These projections are based on assumptions concerning economic growth and assistance by state governments to local governments which are discussed in appendix A5. Other sets of projections, based on alternative economic scenarios, are also discussed. No projections for private schools are presented as there are no regular data collections for total private school expenditures.

There are many factors that may affect future school expenditures and teacher salaries that were not considered in the production of the projections presented in this chapter. These include recent policy initiatives to decrease classroom size and potential changes in the distribution of elementary and secondary teachers as older teachers retire and are replaced by younger teachers.

Recent NCES projections of current expenditures generally have been less accurate than the recent NCES projections of public elementary and secondary enrollment but more accurate than projections for teacher salaries. Projections of teacher salaries that have been produced are generally less accurate than teachers salaries; and of similar accuracy to recent NCES projections of associate's degrees. (See table A2, page 97, for the mean absolute percentages of the recent forecasts of selected education statistics.) Long-term projections which are economically based, such as those for current expenditures and teacher salaries, will generally be less accurate than long-term demographic projections, such as those for elementary and secondary enrollments.

Current Expenditures

Past Trends

Current expenditures increased from $213.4 billion in 1985–86 to $311.6 billion in 1998–99 using constant 1999–2000 dollars and the Consumer Price Index (table 33 and figure 53). (The 1998–99 school year is the last year for which current expenditures are available.) This was an increase of 46 percent. Current expenditures are estimated to increase to $336.3 billion by 2001–02, an increase of 58 percent since 1985–86. From 1985–86 to 1998–99, current expenditures per pupil in fall enrollment rose 24 percent to $6,696 (table 33 and figures 54 and 55). Current expenditures per pupil in fall enrollment will increase an estimated 32 percent between 1985–86 and 2001–02. Current expenditures per pupil in average daily attendance in constant dollars (table 34) increased 23 percent from 1985–86 to 1998–99.

Historically, education expenditures have followed a path similar to general economic trends. For much of the period since 1985–86, the economy has been rising. Current expenditures have also been rising during that period. (See figure 56 for a comparison of the growth rates of current expenditures per pupil and one major indicator of the state of the economy, disposable income per capita, and appendix table B6 for the values of disposable income per capita.)

The amount that local governments spend on education is also historically associated with the amount of state education aid to local governments (appendix table B6). There was a rapid rise in state education aid to local governments during the period from 1985–86 to 1998–99. (See figure 56 for a comparison of the growth rates of current expenditures per pupil and revenue receipts from state sources per capita.)

Current expenditures, which had already been increasing, have increased each year since 1985–86. The percent increase has not been constant over that time, however. Most of the largest of the percent increases occurred between 1985-86 and 1989–90. That was the period when disposable income per capita and state education aid per capita were also increasing most rapidly. Also during that period, enrollments, which had been falling since the early 1970s, entered a period of steady increases. Since 1989–90, current expenditures have not been increasing as rapidly. Disposable income per capita and state education aid per capita have been increasing at lower rates than in the mid-1980s as well.

The percentage of total disposable income spent on public elementary and secondary school current expenditures increased slightly from 1985–86 (4.6 percent) to 1998–99 (4.7 percent) (table 33 and appendix tables B5 and B6). Fall enrollment increased annually every year during that time period.

Current expenditures per pupil in fall enrollment as a percentage of disposable income per capita fell from 27.5 percent in 1985–86 to 27.4 percent in 1998–99 (tables 33 and appendix table B6).

Alternative Projections

Three sets of projections are presented for current expenditures in this chapter. Each set of projections is based on alternative assumptions concerning the economy. These assumptions together with the methodology used to produce the current expenditure projections are discussed in appendix A5.

The projections in this chapter are presented in both constant 1999–2000 dollars and in current dollars. The projections were developed in constant dollars and then placed in current dollars using projections for the Consumer Price Index (CPI) (table B6). Three alternative sets of projections for the CPI were used, one for use with the middle alternative projections, one for use with the low alternative projections, and one for use with the high alternative projections.

As projections of current expenditures produced using similar methodologies have appeared in the past 12 editions of the *Projections of Education Statistics*, there is information on the historical accuracy of similar current expenditures projections. Historically, the average difference between the actual values and the projections of both current expenditures and current expenditures per pupil has been about 2 percent for projections that are two or three years out from the year of the last actual data. Projections for years that are further out from the last year of actual data tend to be less accurate. The average difference between the actual values and projections seven or more years out from the last year with actual data generally has been over 4.5 percent for current expenditures and current expenditures per pupil. (See table A2, page 97, for the mean absolute percentages of the recent forecasts of current expenditures and appendix A5 for a further discussion of the accuracy of these forecasts.)

In the middle alternative projections, current expenditures in constant 1999–2000 dollars are projected to increase steadily throughout the forecast period, reaching $418 billion in 2010–11. This is an increase of 34 percent over the 1998–99 level, and 24 percent over the estimated level for 2001–02. Current expenditures are projected to increase most rapidly during the first half of the period. This is also the period during which enrollments are expected to increase most rapidly.

Current expenditures per pupil in fall enrollment in constant dollars are projected to increase by 33 percent from $6,696 in 1998–99 to $8,875 in 2010–11 (table 33 and figure 54).

In the middle economic growth projection, total current expenditures as a percentage of total disposable income are projected to decrease to 4.2 percent in 2010–11 (table 33 and appendix tables B5 and B6). Current expenditures per pupil in fall enrollment as a percentage of disposable income per capita are projected to decrease slightly, from 27.4 percent to 26.7 percent during the same period.

In the low economic growth projections, both current expenditures and current expenditures per pupil are projected to increase more slowly than in the middle set of projections. Current expenditures are projected to increase by 29 percent from 1998–99 to 2010–11, reaching $402.4 billion at the end of the forecast period.

In the high economic growth projections, current expenditures are projected to increase by approximately 40 percent over the 1998–99 level to $435.9 billion in 2010–11.

Teacher Salaries

Past Trends

The period from 1985–86 to 2000–01 has been dominated by two different patterns for teacher salaries in constant dollars (table 35 and figures 57 and 58).

Teacher salaries had reached the bottom of a period of steady declines in 1980–81, and then entered a period of steady and relatively rapid growth. From 1985–86 to 1989–90, teacher salaries increased 7 percent, from $39,204 to $41,824 in constant 1999–2000 dollars. During this period, current expenditures and the revenues of state governments were increasing rapidly. (See figure 59 for a comparison of the growth rates for teacher salaries and current expenditures per pupil.)

From 1989–90 to 2000–01, teacher salaries decreased less than one percent. During much of that period, the economy, current expenditures, and revenues of state and local governments had not been increasing as rapidly as they did at the end of the end of the 1990s.

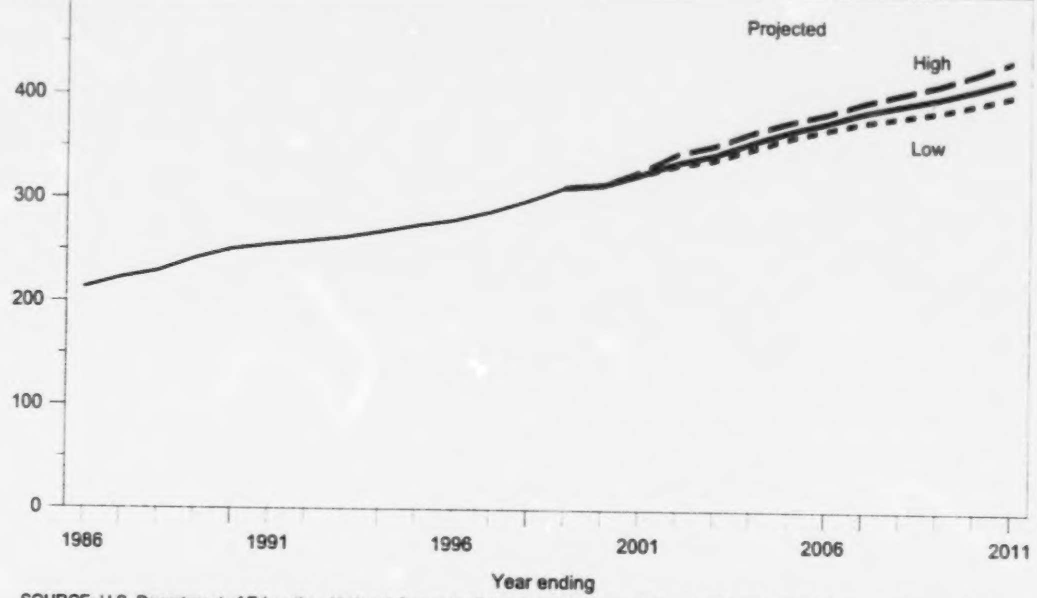
Alternative Projections

As with current expenditures, three sets of projections are presented for teacher salaries. The methodology and the assumptions used to produce these projections are discussed in appendix A5.

As projections of teacher salaries produced using similar methodologies have appeared in the past 12 editions of the *Projections of Education Statistics*, there is information on the historical accuracy of similar teacher salary projections. Historically, the average difference between the actual values and the projections of teacher salaries has been about 2 percent for projections that are two or three years out from the year of the last actual data. Projections for years that are further out from the last year of actual data tend to be less accurate. The average difference between the actual value and the projection ten years out from the last year with actual data is almost 16 percent. (See table A2, page 97, for the mean absolute percentages of the recent forecasts of teacher salaries and appendix A5 for a further discussion of the accuracy of these forecasts.)

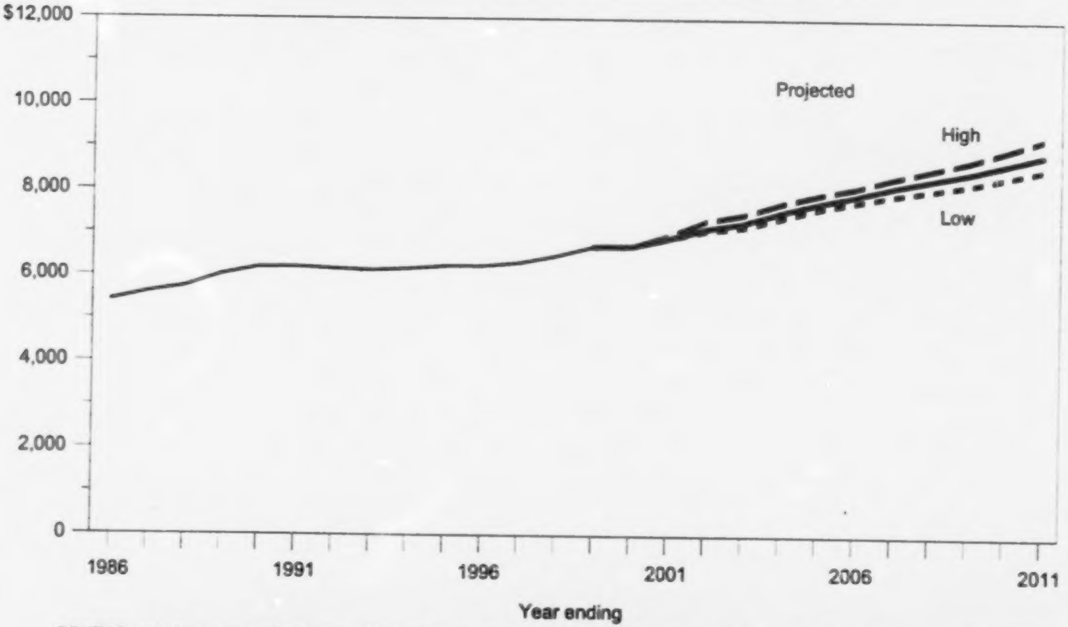
In the middle economic growth projections, the average teacher salary in constant 1999–2000 dollars is projected to reach $43,216 in 2010–11 (table 35 and figure 57). This is a 4 percent increase from the level estimated for 2000–01. This percent increase is less than the average percentage difference between recent long-term projections of teacher salaries and their actual values.

Figure 53.--Current expenditures of public schools (in constant 1999-2000 dollars), with alternative projections: 1985-86 to 2010-11



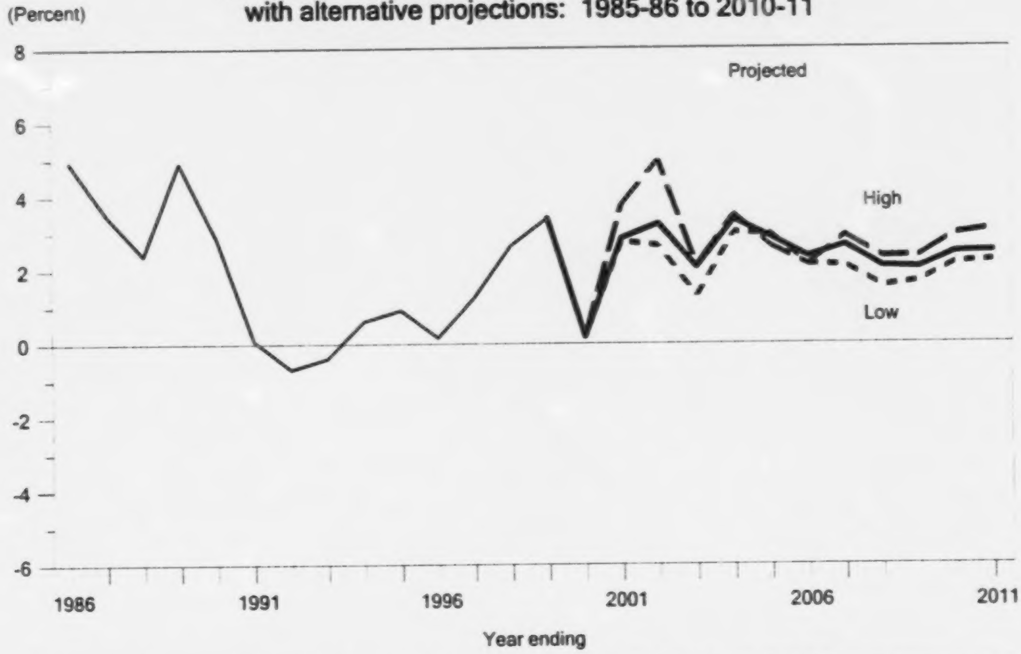
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of State School Systems*; Common Core of Data surveys; *Early Estimates*; Elementary and Secondary Enrollment Model; Elementary and Secondary School Current Expenditure Model; and National Education Association, annual *Estimates of School Statistics*. (Latest edition 2001. Copyright 2001 by the National Education Association. All rights reserved.)

Figure 54.--Current expenditures per pupil in fall enrollment in public schools (in constant 1999-2000 dollars), with alternative projections: 1985-86 to 2010-11



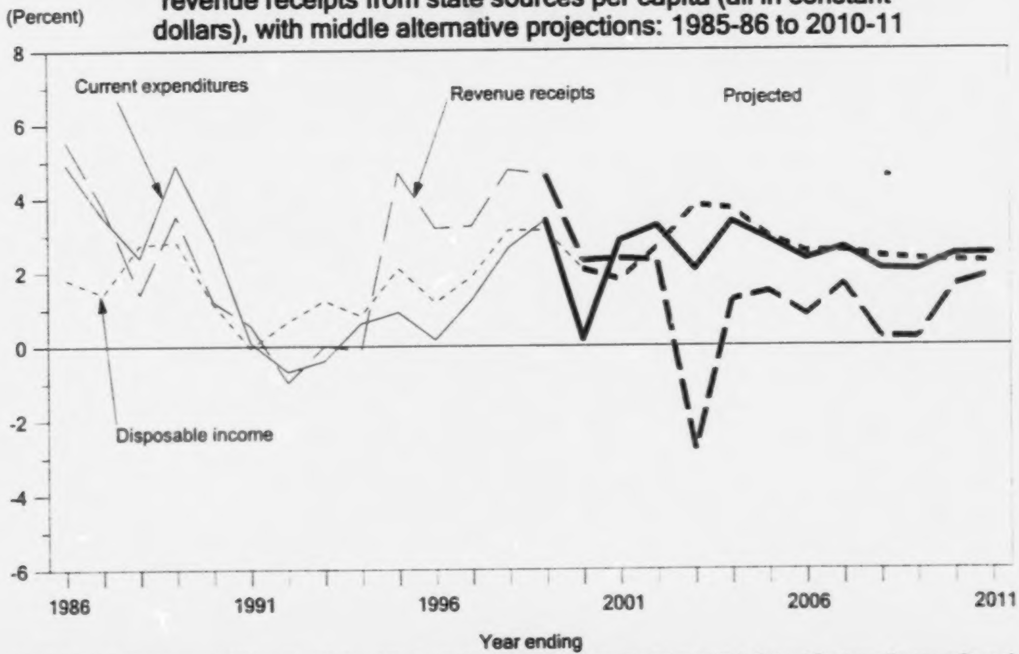
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of State School Systems*; Common Core of Data surveys; *Early Estimates*; Elementary and Secondary Enrollment Model; Elementary and Secondary School Current Expenditure Model; and National Education Association, annual *Estimates of School Statistics*. (Latest edition 2001. Copyright 2001 by the National Education Association. All rights reserved.)

Figure 55.--Annual percentage change in current expenditures per pupil in fall enrollment in public schools (in constant dollars), with alternative projections: 1985-86 to 2010-11



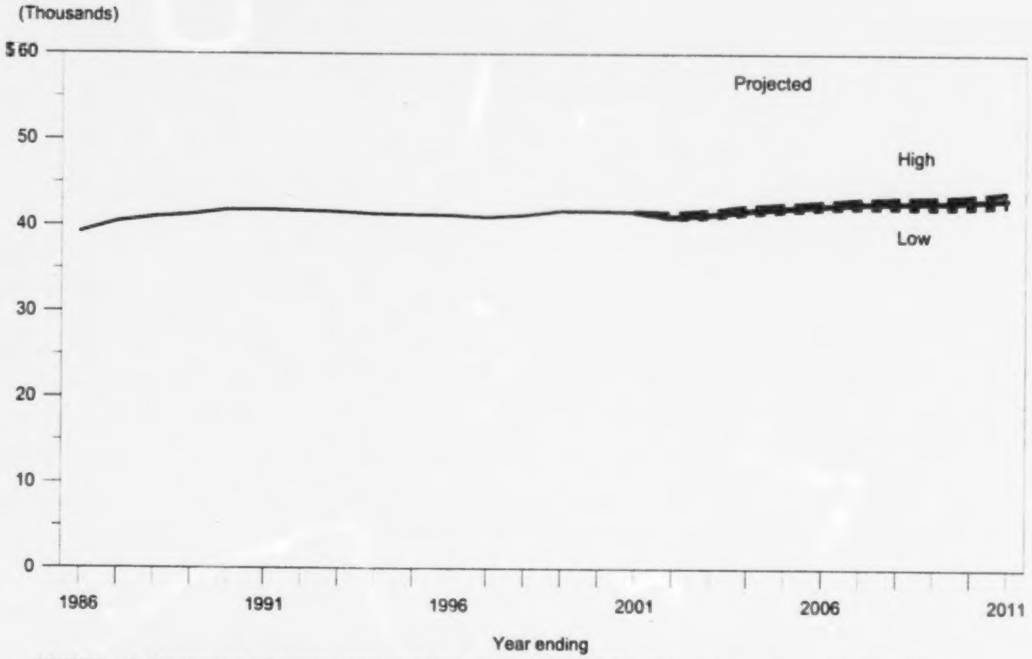
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of State School Systems*; Common Core of Data surveys; *Early Estimates*; Elementary and Secondary Enrollment Model; Elementary and Secondary School Current Expenditure Model; and National Education Association, annual *Estimates of School Statistics*. (Latest edition 2001. Copyright 2001 by the National Education Association. All rights reserved.)

Figure 56.--Annual percentage change in current expenditures per pupil in fall enrollment in public schools, disposable income per capita, and education revenue receipts from state sources per capita (all in constant dollars), with middle alternative projections: 1985-86 to 2010-11



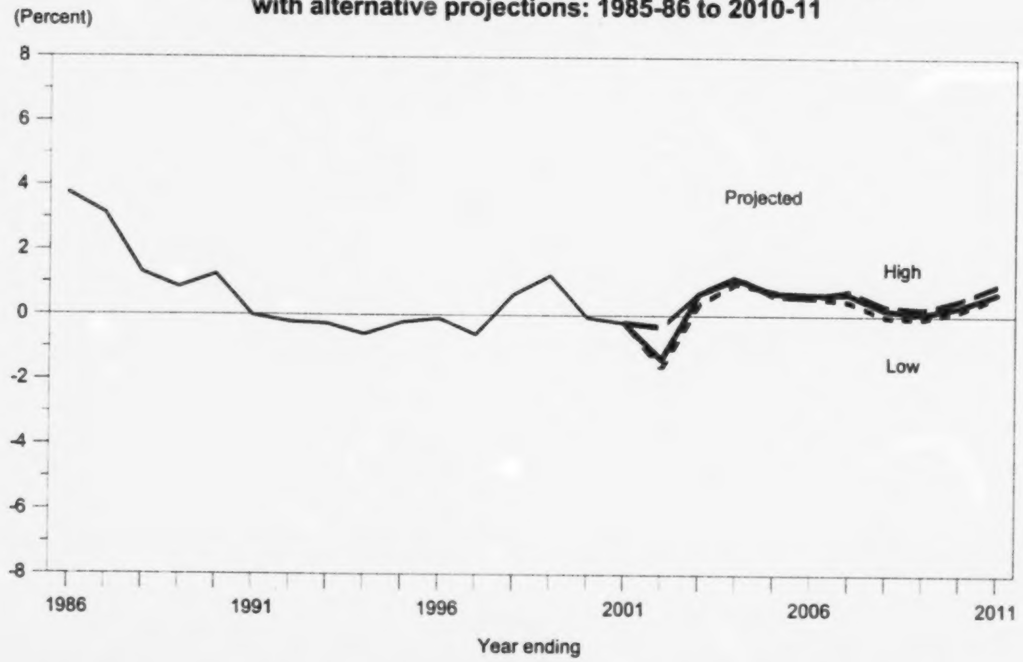
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of State School Systems*; Common Core of Data surveys; *Early Estimates*; Elementary and Secondary Enrollment Model; Elementary and Secondary School Current Expenditure Model; Revenue Receipts from State Sources Model; National Education Association, annual *Estimates of School Statistics*;. (Latest edition 2001. Copyright 2001 by the National Education Association. All rights reserved.); and DRI-WEFA, "U.S. Quarterly Model."

Figure 57.--Estimated average annual salaries of teachers in public schools (in constant 1999-2000 dollars), with alternative projections: 1985-86 to 2010-11



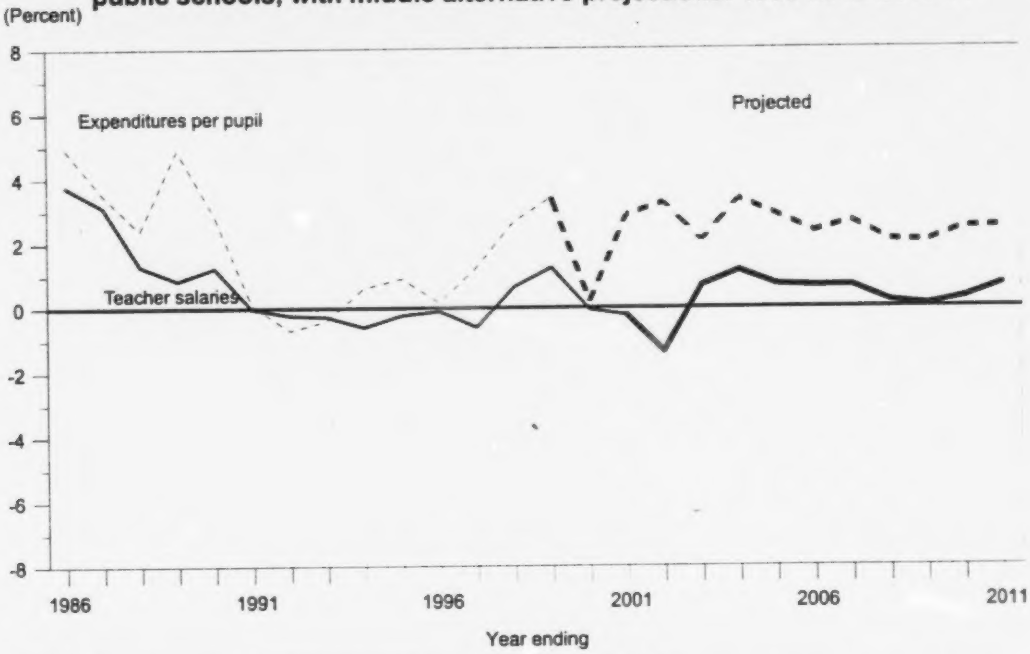
SOURCE: U.S. Department of Education, National Center for Education Statistics, Elementary and Secondary Teacher Salary Model; and National Education Association, annual *Estimates of School Statistics*. (Latest edition 2001. Copyright 2001 by the National Education Association. All rights reserved.)

Figure 58.--Annual percentage change in estimated average annual salaries of teachers in public schools (in constant dollars), with alternative projections: 1985-86 to 2010-11



SOURCE: U.S. Department of Education, National Center for Education Statistics, Elementary and Secondary Teacher Salary Model; and National Education Association, annual *Estimates of School Statistics*. (Latest edition 2001. Copyright 2001 by the National Education Association. All rights reserved.)

Figure 59.-- Annual percentage change in estimated average annual salaries of teachers and current expenditures per pupil in fall enrollment of public schools, with middle alternative projections: 1985-86 to 2010-11



NOTE: Estimated annual teacher salaries and current expenditures are in constant dollars.

SOURCE: U.S. Department of Education, National Center for Education Statistics; Common Core of Data surveys; *Early Estimates*; Elementary and Secondary Enrollment Model; Elementary and Secondary School Current Expenditure Model ; Elementary and Secondary Teacher Salary Model; and National Education Association, annual *Estimates of School Statistics*. (Latest edition 2001. Copyright 2001 by the National Education Association. All rights reserved.)

Table 33.—Current expenditures and current expenditures per pupil in fall enrollment in public elementary and secondary schools, with alternative projections: 1985–86 to 2010–11

Year ending	Fall enrollment[1] (in thousands)	Current expenditures			
		Constant 1999–2000 dollars[2]		Current dollars	
		Total (in billions)	Per pupil in fall enrollment	Total (in billions)	Per pupil in fall enrollment
1986	39,422	$213.4	$5,413	$137.2	$3,479
1987	39,753	222.7	5,603	146.4	3,682
1988	40,008	229.5	5,737	157.1	3,927
1989	40,188	241.8	6,018	173.1	4,307
1990	40,543	251.0	6,190	188.2	4,643
1991	41,217	255.4	6,196	202.0	4,902
1992	42,047	258.7	6,153	211.2	5,023
1993	42,823	262.5	6,129	220.9	5,160
1994	43,465	268.0	6,166	231.5	5,327
1995	44,111	274.5	6,222	243.9	5,529
1996	44,840	279.5	6,232	255.1	5,689
1997	45,611	287.8	6,310	270.2	5,923
1998	46,127	298.7	6,476	285.5	6,189
1999	46,539	311.6	6,696	302.9	6,508
		Middle alternative projections			
2000	46,857	314.3	6,708	314.3	6,708
2001	47,051	324.6	6,899	334.5	7,109
2002	47,213	336.3	7,122	353.5	7,487
2003	47,358	344.2	7,269	367.8	7,765
2004	47,432	356.3	7,513	387.2	8,163
2005	47,494	367.0	7,728	406.4	8,557
2006	47,536	375.9	7,908	(3)	(3)
2007	47,515	385.7	8,118	(3)	(3)
2008	47,430	393.0	8,286	(3)	(3)
2009	47,286	399.8	8,454	(3)	(3)
2010	47,178	408.6	8,661	(3)	(3)
2011	47,131	418.3	8,875	(3)	(3)
		Low alternative projections			
2000	46,857	314.3	6,708	314.3	6,708
2001	47,051	324.3	6,893	334.2	7,103
2002	47,213	334.0	7,075	351.0	7,435
2003	47,358	339.3	7,165	362.3	7,650
2004	47,432	350.0	7,379	380.4	8,020
2005	47,494	360.8	7,597	399.8	8,419
2006	47,536	368.8	7,758	(3)	(3)
2007	47,515	376.3	7,920	(3)	(3)
2008	47,430	381.4	8,042	(3)	(3)
2009	47,286	386.6	8,175	(3)	(3)
2010	47,178	394.0	8,352	(3)	(3)
2011	47,131	402.4	8,538	(3)	(3)
		High alternative projections			
2000	46,857	314.3	6,708	314.3	6,708
2001	47,051	327.4	6,959	337.4	7,170
2002	47,213	344.9	7,304	362.6	7,680
2003	47,358	353.1	7,457	378.7	7,996
2004	47,432	366.0	7,717	400.6	8,446
2005	47,494	376.1	7,919	420.0	8,843
2006	47,536	384.4	8,087	(3)	(3)
2007	47,515	395.4	8,322	(3)	(3)
2008	47,430	403.9	8,516	(3)	(3)
2009	47,286	412.2	8,717	(3)	(3)
2010	47,178	423.3	8,973	(3)	(3)
2011	47,131	435.9	9,250	(3)	(3)

[1] Each enrollment number refers to the fall of the school year shown in column 1. For example, the enrollment number listed for 1986 is for fall 1985.

[2] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[3] Projections in current dollars are not shown after 2005 due to the uncertain behavior of inflation over the long term.

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data survey; National Elementary and Secondary Enrollment Model; Elementary and Secondary School Current Expenditures Model; and National Education Association, *Estimates of School Statistics.* (Latest edition 2001. Copyright 2001 by the National Education Association. All rights reserved.) (This table was prepared June 2001.)

Table 34.—Current expenditures and current expenditures per pupil in average daily attendance (ADA) in public elementary and secondary schools, with alternative projections: 1985–86 to 2010–11

Year ending	ADA (in thousands)	Current expenditures			
		Constant 1999–2000 dollars[1]		Current dollars	
		Total (in billions)	Per pupil in ADA	Total (in billions)	Per pupil in ADA
1986	36,523	$213.4	$5,843	$137.2	$3,756
1987	36,864	222.7	6,042	146.4	3,970
1988	37,051	229.5	6,195	157.1	4,240
1989	37,268	241.8	6,489	173.1	4,645
1990	37,799	251.0	6,640	188.2	4,980
1991	38,427	255.4	6,646	202.0	5,258
1992	38,961	258.7	6,640	211.2	5,421
1993	39,570	262.5	6,633	220.9	5,584
1994	40,146	268.0	6,676	231.5	5,767
1995	40,721	274.5	6,740	243.9	5,989
1996	41,502	279.5	6,734	255.1	6,147
1997	42,262	287.8	6,810	270.2	6,393
1998	42,766	298.7	6,985	285.5	6,675
1999	43,187	311.6	7,216	302.9	7,013
		Middle alternative projections			
2000	43,433	314.3	7,237	314.3	7,237
2001	43,613	324.6	7,443	334.5	7,670
2002	43,763	336.3	7,684	353.5	8,077
2003	43,898	344.2	7,842	367.8	8,378
2004	43,966	356.3	8,105	387.2	8,807
2005	44,024	367.0	8,337	406.4	9,232
2006	44,063	375.9	8,532	(2)	(2)
2007	44,043	385.7	8,758	(2)	(2)
2008	43,964	393.0	8,939	(2)	(2)
2009	43,831	399.8	9,120	(2)	(2)
2010	43,730	408.6	9,344	(2)	(2)
2011	43,687	418.3	9,575	(2)	(2)
		Low alternative projections			
2000	43,433	314.3	7,237	314.3	7,237
2001	43,613	324.3	7,437	334.2	7,663
2002	43,763	334.0	7,633	351.0	8,021
2003	43,898	339.3	7,730	362.3	8,253
2004	43,966	350.0	7,961	380.4	8,652
2005	44,024	360.8	8,196	399.8	9,082
2006	44,063	368.8	8,370	(2)	(2)
2007	44,043	376.3	8,545	(2)	(2)
2008	43,964	381.4	8,676	(2)	(2)
2009	43,831	386.6	8,820	(2)	(2)
2010	43,730	394.0	9,011	(2)	(2)
2011	43,687	402.4	9,211	(2)	(2)
		High alternative projections			
2000	43,433	314.3	7,237	314.3	7,237
2001	43,613	327.4	7,508	337.4	7,736
2002	43,763	344.9	7,880	362.6	8,285
2003	43,898	353.1	8,044	378.7	8,627
2004	43,966	366.0	8,325	400.6	9,112
2005	44,024	376.1	8,544	420.0	9,540
2006	44,063	384.4	8,725	(2)	(2)
2007	44,043	395.4	8,978	(2)	(2)
2008	43,964	403.9	9,188	(2)	(2)
2009	43,831	412.2	9,404	(2)	(2)
2010	43,730	423.3	9,681	(2)	(2)
2011	43,687	435.9	9,979	(2)	(2)

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2005 due to the uncertain behavior of inflation over the long term

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data survey; Elementary and Secondary Average Daily Attendance Model; Elementary and Secondary School Current Expenditures Model; and National Education Association, *Estimates of School Statistics.* (Latest edition 2001. Copyright 2001 by the National Education Association. All rights reserved.) (This table was prepared May 2001.)

Table 35.—Estimated average annual salaries of classroom teachers in public elementary and secondary schools, with alternative projections: 1985–86 to 2010–11

Year ending	Constant 1999–2000 dollars[1]	Current dollars
1986	$39,204	$25,199
1987	40,431	26,569
1988	40,959	28,034
1989	41,306	29,564
1990	41,824	31,367
1991	41,817	33,084
1992	41,724	34,063
1993	41,611	35,029
1994	41,366	35,737
1995	41,274	36,675
1996	41,235	37,642
1997	40,985	38,477
1998	41,247	39,417
1999	41,753	40,580
2000	41,724	41,724
2001	41,626	42,898
	Middle alternative projections	
2002	41,062	43,166
2003	41,342	44,165
2004	41,815	45,436
2005	42,109	46,629
2006	42,387	(2)
2007	42,669	(2)
2008	42,748	(2)
2009	42,783	(2)
2010	42,911	(2)
2011	43,216	(2)
	Low alternative projections	
2002	40,950	43,033
2003	41,098	43,881
2004	41,509	45,112
2005	41,815	46,339
2006	42,056	(2)
2007	42,240	(2)
2008	42,227	(2)
2009	42,200	(2)
2010	42,277	(2)
2011	42,535	(2)
	High alternative projections	
2002	41,489	43,622
2003	41,776	44,801
2004	42,277	46,271
2005	42,534	47,493
2006	42,777	(2)
2007	43,106	(2)
2008	43,232	(2)
2009	43,324	(2)
2010	43,539	(2)
2011	43,954	(2)

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2005 due to the uncertain behavior of inflation over the long term

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Elementary and Secondary Teacher Salary Model; and National Education Association, *Estimates of School Statistics*. (Latest edition 2001. Copyright 2001 by the National Education Association. All rights reserved.)

(This table was prepared June 2001.)

Technical Appendixes

Appendix A

Projection Methodology

The general procedure for *Projections* was to express the variable to be projected as a percent of a "base" variable. These percents were then projected and applied to projections of the "base" variable. For example, the number of 18-year-old college students was expressed as a percent of the 18-year-old population for each year from 1972 through 1999. This enrollment rate was then projected through the year 2011 and applied to projections of the 18-year-old population from the Bureau of the Census.

Enrollment projections are based primarily on population projections. Projections of elementary and secondary teachers, high school graduates, earned degrees conferred, and expenditures are based primarily on enrollment projections.

Exponential smoothing and multiple linear regression are the two major projection techniques used in this publication. Single exponential smoothing is used when the historical data have a basically horizontal pattern. On the other hand, double exponential smoothing is used when the time series is expected to change linearly with time. In general, exponential smoothing places more weight on recent observations than on earlier ones. The weights for observations decrease exponentially as one moves further into the past. As a result, the older data have less influence on these projections. The rate at which the weights of older observations decrease is determined by the smoothing constant selected.

$$P = \alpha X_t + \alpha(1-\alpha)X_{t-1} + \alpha(1-\alpha)^2 X_{t-2}$$
$$+ \alpha(1-\alpha)^3 X_{t-3} + \cdots\cdots\cdots$$

Where:

P = projected value

α = smoothing constant ($0 < \alpha < 1$)

X_t = observation for time t

This equation illustrates that the projection is a weighted average based on exponentially decreasing weights. For a high smoothing constant, weights for earlier observations decrease rapidly. For a low smoothing constant, decreases are more moderate. Projections of enrollments and public high school graduates are based on a smoothing constant of α = 0.4.

The farther apart the observations are spaced in time, the more likely it is that there are changes in the underlying social, political, and economic structure. Since the observations are on an annual basis, major shifts in the underlying process are more likely in the time span of just a few observations than if the observations were available on a monthly or weekly basis. As a result, the underlying process tends to be unstable from one observation to the next. Another reason for using high smoothing constants for some time series is that most of the observations are fairly accurate, because most observations are population values rather than sample estimates. Therefore, large shifts tend to indicate actual changes in the process rather than noise in the data.

Multiple linear regression is also used in making projections, primarily in the areas of elementary and secondary teachers, earned degrees conferred, and expenditures. This technique is used when it is believed that a strong relationship exists between the variable being projected (the dependent variable) and independent variables. However, this technique is used only when accurate data and reliable projections of the independent variables are available.

The functional form primarily used is the multiplicative model. When used with two independent variables, this model takes the form:

$$Y = aX_1^{b_1} X_2^{b_2}$$

This equation can easily be transformed into the linear form by taking the natural log (ln) of both sides of the equation:

$$\ln Y = \ln(a) + b_1 \ln X_1 + b_2 \ln X_2$$

The multiplicative model has a number of advantages. Research has found that it is a reasonable way to represent human behavior. Constant elasticities are assumed, which means that a 1 percent change in lnX will lead to a given percent change in lnY. This percent change is equal to b_1. And the multiplicative model lends itself easily to "a priori" analysis because the researcher does not have to worry about units of measurement when specifying relationships. In fact, the multiplicative model is considered the standard in economic analyses. For additional information, see *Long-Range Forecasting: From Crystal Ball to Computer* by J. Scott Armstrong (John Wiley and Sons, 1978, pp. 180-181).

Caveats

Because projections are subject to errors from many sources, alternative projections are shown for some statistical series. These alternatives are not statistical confidence intervals, but instead represent outcomes based on alternative growth patterns. Alternative projections were developed for college enrollment, earned degrees conferred, elementary and secondary teachers, and expenditures in public elementary and secondary schools.

Assumptions

All projections are based on underlying assumptions, and these assumptions determine projection results to a large extent. It is important that users of projections understand the assumptions to determine the acceptability of projected time series for their purposes. Descriptions of the primary assumptions upon which the projections of time series are based are presented in table A1, page 96.

For most projections, low, middle, and high alternatives are shown. These alternatives reveal the level of uncertainty involved in making projections, and they also point out the sensitivity of projections to the assumptions on which they are based.

Many of the projections in this publication are demographically based on Bureau of the Census middle series projections of the population by age, but are not adjusted for the 1990 net undercount of 4 to 5 million. The population projections developed by the Bureau of the Census reflect the incorporation of the 1999 estimates and middle series assumptions for the fertility rate, net immigration, and a declining mortality rate.

These middle series population projections are based on the estimated population as of January 1, 1999 and the estimated base population as of April 1, 1990. The future fertility rate assumption, which determines projections of the number of births, is one key assumption in making population projections.

The middle series population projections assume an ultimate complete cohort fertility rate of 2.13 births per woman by the year 2011. Yearly net migration is assumed to increase from 970,368 in 2000 to 980,425 in 2001 and then decrease to 724,192 by 2011. This assumption plays a major role in determining population projections for the age groups enrolled in nursery school, kindergarten, and elementary grades. The effects of the fertility rate assumption are more pronounced toward the end of the projection period, while the immigration assumptions affect all years.

For enrollments in secondary grades and college, the fertility assumption is of no consequence, since all students enrolled at these levels were already born when the population projections were made. For projections of enrollments in elementary schools, only middle series population projections were considered. Projections of high school graduates are based on projections of the percent of grade 12 enrollment that are high school graduates. Projections of associate's, bachelor's, master's, doctor's, and first-professional degrees are based on projections of college-age populations and college enrollment, by sex, attendance status and level enrolled by student, and by type of institution. Projections of college enrollment are also based on disposable income per capita and unemployment rates. The projections of elementary and secondary teachers are based on education revenue receipts from state sources and enrollments. The projections of expenditures of public elementary and secondary schools are based on enrollments and projections of disposable income per capita and various revenue measures of state and local governments. Projections of disposable income per capita and unemployment rates were obtained from the company, DRI•WEFA, Inc. Therefore, many additional assumptions made in projecting disposable income per capita and unemployment rates apply to projections based on projections of these variables.

Limitations of Projections

Projections of time series usually differ from the final reported data due to errors from many sources. This is because of the inherent nature of the statistical universe from which the basic data are obtained and the properties of projection methodologies, which depend on the validity of many assumptions. Therefore, alternative projections are shown for most statistical series to denote the uncertainty involved in making projections. These alternatives are not statistical confidence limits, but instead represent judgments made by the authors as to reasonable upper and lower bounds. The mean absolute percentage error is one way to express the forecast accuracy of past projections. This measure expresses the average value of the absolute value of errors in percentage terms. For example, the mean absolute percentage errors of public school enrollment in grades K-12 for lead times of 1, 2, 5, and 10 years were 0.2, 0.5, 1.2, and 2.9 percent, respectively. On the other hand, mean absolute percentage errors for doctor's degrees for lead times of 1, 2, and 5 years were 2.0, 2.8, and 3.7 percent respectively. For more information on mean absolute percentage errors, see table A2, page 97.

Table A1.—Summary of forecast assumptions to 2011

Variables	Middle alternative	Low alternative	High alternative
Demographic Assumptions			
Population	Projections are consistent with the Census Bureau middle series estimates, which assume a fertility rate of 2.13 births per woman by the year 2010, a yearly net migration ranging from 724,000 to 970,000 per year, and a further reduction in the mortality rate.	Same as middle alternative	Same as middle alternative
18- to 24-year-old population	Average annual growth rate of 1.3%	Same as middle alternative	Same as middle alternative
25- to 29-year-old population	Average annual growth rate of 0.8%	Same as middle alternative	Same as middle alternative
30- to 34-year-old population	Average annual decline of 0.1%	Same as middle alternative	Same as middle alternative
35- to 44-year-old population	Average annual decline of 1.1%	Same as middle alternative	Same as middle alternative
Public elementary enrollment	Average annual decline of 0.1%	Same as middle alternative	Same as middle alternative
Public secondary enrollment	Average annual growth rate of 0.4%	Same as middle alternative	Same as middle alternative
Undergraduate enrollment	Average annual growth rate of 1.6%	Average annual growth rate of 1.3%	Average annual growth rate of 1.8%
Graduate enrollment	Average annual growth rate of 1.0%	Average annual growth rate of 0.8%	Average annual growth rate of 1.3%
First-professional enrollment	Average annual growth rate of 1.0%	Average annual growth rate of 0.8%	Average annual growth rate of 1.3%
Full-time-equivalent enrollment	Average annual growth rate of 1.6%	Average annual growth rate of 1.3%	Average annual growth rate of 1.9%
Economic Assumptions			
Disposable income per capita in constant dollars	Annual percent changes range between 2.2% and 3.8% with an annual compound growth rate of 2.7%.	Annual percent changes range between 1.7% and 2.9% with an annual compound growth rate of 2.4%.	Annual percent changes range between 2.6% and 5.2% with an annual compound growth rate of 2.9%.
Education revenue receipts from state sources per capita in constant dollars	Annual percent changes range between -2.8% and 2.3% with an annual compound growth rate of 0.7%.	Annual percent changes range between -3.4% and 2.9% with an annual compound growth rate of 0.3%.	Annual percent changes range between -2.4% and 2.8% with an annual compound growth rate of 0.9%.
Inflation rate	Inflation rate ranges between 1.6% and 3.2%.	Inflation rate ranges between 1.6% and 3.5%.	Inflation rate ranges between 2.0% and 2.6%.
Personal taxes and nontax receipts to state and local governments per capita in constant dollars	Annual percent changes range between -2.6% and 4.2% with an annual compound growth rate of 2.8%.	Annual percent changes range between -3.6% and 5.8% with an annual compound growth rate of 2.3%.	Annual percent changes range between -1.1% and 5.6% with an annual compound growth rate of 2.9%.
Unemployment Rate (Men)			
Age 18 to 19	Remains between 13.1% and 15.9%	Same as middle alternative	Same as middle alternative
Age 20 to 24	Remains between 8.1% and 10.2%	Same as middle alternative	Same as middle alternative
Age 25 and over	Remains between 3.1% and 4.2%	Same as middle alternative	Same as middle alternative
Unemployment Rate (Women)			
Age 18 to 19	Remains between 10.8% and 13.0%	Same as middle alternative	Same as middle alternative
Age 20 to 24	Remains between 8.0% and 9.6%	Same as middle alternative	Same as middle alternative
Age 25 and over	Remains between 3.0% and 4.0%	Same as middle alternative	Same as middle alternative

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092, 1095, and "National Population Estimates," June 1999, and "Annual Projections of the Total Resident Population: 1999 to 2100," January 2000; and DRI•WEFA, "U.S. Quarterly Model"

(This table was prepared June 2001.)

BEST COPY AVAILABLE

Table A2.—Mean absolute percentage errors (MAPEs) by lead time for selected statistics in public elementary and secondary schools and degree-granting institutions

Statistics	Lead time (years)									
	1	2	3	4	5	6	7	8	9	10
Public elementary and secondary schools[1]										
K-12 enrollment	0.2	0.5	0.7	0.9	1.2	1.4	1.8	2.0	2.4	2.9
K-8 enrollment	0.3	0.5	0.8	1.0	1.2	1.7	2.2	2.9	3.5	4.3
9-12 enrollment	0.4	0.7	0.9	1.0	1.3	1.6	2.0	2.2	2.4	2.6
High school graduates	0.7	0.9	1.4	2.0	1.7	1.9	2.6	3.7	3.6	4.1
Teachers	1.9	1.3	1.8	1.7	1.9	1.8	2.2	2.8	3.3	4.6
Total current expenditures [2]	1.3	2.3	2.2	2.1	3.1	3.9	4.5	4.7	4.7	2.6
Current expenditures per pupil in fall enrollment [2]	1.3	2.0	2.0	2.0	3.6	4.4	5.2	6.0	7.1	6.3
Current expenditures per pupil in ADA [2]	1.2	1.6	1.9	2.0	3.3	4.0	4.9	5.8	7.1	6.4
Estimates average annual teacher salaries [2]	1.3	1.7	2.2	3.8	5.5	7.8	10.0	12.1	14.4	15.9
Degree-granting institutions[3]										
Total enrollment	1.0	0.9	0.9	1.1	2.2	3.0	(4)	(4)	(4)	(4)
Men	1.0	1.5	1.6	2.2	3.4	5.8	(4)	(4)	(4)	(4)
Women	1.6	1.8	1.6	0.9	1.2	0.7	(4)	(4)	(4)	(4)
4-year	1.0	1.4	1.5	2.1	2.8	2.3	(4)	(4)	(4)	(4)
2-year	1.9	1.9	2.0	2.1	2.7	4.0	(4)	(4)	(4)	(4)
Associate's degrees	1.5	3.4	6.0	5.7	6.4	(4)	(4)	(4)	(4)	(4)
Bachelor's degrees	1.0	1.8	1.3	2.5	1.0	(4)	(4)	(4)	(4)	(4)
Master's degrees	1.0	3.8	2.8	2.1	2.1	(4)	(4)	(4)	(4)	(4)
Doctor's degrees	2.0	2.8	2.8	3.7	3.7	(4)	(4)	(4)	(4)	(4)
First-professional degrees	1.6	1.5	1.4	3.8	3.8	(4)	(4)	(4)	(4)	(4)

[1] MAPEs for enrollments and high school graduates were calculated using the last 18 editions of the *Projections of Education Statistcs*, teachers from the past 12 editions and MAPEs for current expenditures and teacher salaries were calculated using projections from the last 11 editions of the *Projections of Education Statistics* .

[2] In constant dollars based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[3] MAPEs for enrollments and earned degrees were calculated using the last 6 editions of the *Projections of Education Statistcs*.

[4] Not all actual values were available to calculate a MAPE of this lead time.

NOTE: Mean absolute percentage error is the average value of the absolute values of errors expressed in percentage terms. Calculations were made using unrounded numbers. Some data have been revised from previously published numbers.

SOURCES: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics*, various issues. (This table was prepared May 2001.)

BEST COPY AVAILABLE

A1. Enrollment

National

Enrollment projections were based on projected enrollment rates, by age and sex, which were applied to population projections by age and sex developed by the Bureau of the Census. These enrollment rates were projected by taking into account the most recent trends, as well as the effects of economic conditions and demographic changes on a person's decision to enter college. The enrollment rates were then used in the Education Forecasting Model (EDMOD), which consists of age-specific rates by sex and by enrollment levels.

Education Forecasting Model

The first stage of EDMOD is an age-specific enrollment model in which enrollment rates are projected and applied to age-specific population projections. This stage, which is used separately for each sex, includes the following categories: (1) full-time college enrollment, and (2) part-time college enrollment. Within an enrollment category, where applicable, enrollment rates were projected by individual ages 16 through 24 and for the age groups 25 to 29, 30 to 34, and 35 years and over.

Enrollments by age and age groups from the Bureau of the Census were adjusted to NCES totals to compute enrollment rates for 1972 through 1999. Different assumptions were made to produce low, middle, and high alternative projections of enrollment rates to the year 2011.

College Full-Time and Part-Time Enrollment

Projections of full-time and part-time college enrollments were considered only for ages 16 and over. College enrollment is negligible for earlier ages. Three alternative projections were made using various economic assumptions. Table A1.1 shows enrollment rates for 1999 and middle alternative projected enrollment rates for 2006 and 2011. Table A1.2 shows the equations used to project enrollment rates for men by attendance status. Table A1.3 shows the equations used to project enrollment rates for women by attendance status.

Enrollment in Public Elementary and Secondary Schools, by Grade Group and Organizational Level

The second stage of EDMOD projects public enrollment in elementary and secondary schools by grade group and by organizational level. Public enrollments by age were based on enrollment rate projections for nursery and kindergarten, grade 1, elementary ungraded and special, secondary ungraded and special, and postgraduate enrollment. Grade progression rate projections were used for grades 2 through 12. Table A1.4 shows the public school enrollment rates and table A1.5 shows the public school grade progression rates for 1999 and projections for 2006 and 2011. The projected rates in tables A1.4 and A1.5 were used to compute the projections of enrollments in elementary and secondary schools, by grade, shown in table 1.

College Enrollment, by Sex, Attendance Status, and Level Enrolled; and by Type and Control of Institution

The third stage of EDMOD projects enrollments in institutions of higher education, by sex, attendance status, and level enrolled by student and by type and control of institution. For each age group, the percent of total enrollment by age, attendance status, level enrolled, and type of institution was projected. These projections for 2006 and 2011 are shown in tables A1.6 and A1.7, along with actual values for 1999. For all projections, it was assumed that there was no enrollment in 2-year institutions at the postbaccalaureate level (graduate and first-professional).

The projected rates in tables A1.6 and A1.7 were then adjusted to agree with the projected age-specific enrollment rates in the first stage of EDMOD. The adjusted rates were then applied to the projected enrollments by age group, sex, and attendance status from the first stage of EDMOD to obtain projections by age group, sex, attendance status, level enrolled, and type of institution.

For each enrollment category—sex, attendance status, level enrolled, and type of institution—public enrollment was projected as a percent of total enrollment. Projections for 2006 and 2011 are shown in table A1.8, along with actual percents for 1999. The projected rates were then applied to the projected enrollments in each enrollment category to obtain projections by control of institution.

For each category by sex, enrollment level, and type and control of institution, graduate enrollment was projected as a percent of postbaccalaureate enrollment. Actual rates for 1999 and projections for 2006 and 2011 are shown in table A1.9. The projected rates in table A1.9 were then applied to projections of postbaccalaureate enrollment to obtain graduate and first-professional enrollment projections by sex, attendance status, and type and control of institution.

Full-Time-Equivalent Enrollment, by Type and Control of Institution and by Level Enrolled

The fourth stage of EDMOD projects full-time-equivalent enrollment, by type and control of institution and by level enrolled. For each enrollment category by level enrolled and by type and control of institution, the full-time-equivalent of part-time enrollment was projected as a percent of part-time enrollment. Actual percents for 1999 and projections for 2006 and 2011 are shown in table A1.10.

These projected percents were applied to projections of enrollment by level enrolled and by type and control of institution from the third stage of EDMOD. The projections were added to projections of full-time enrollment (from the previous stage) to obtain projections of full-time-equivalent enrollment.

Projection Accuracy

An analysis of projection errors from the past 18 editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for lead times of 1, 2, 5, and 10 years out for projections of public school enrollment in grades K-12 were 0.2, 0.5, 1.2, and 2.9 percent, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 0.2 percent of the actual value, on the average. For projections of public school enrollment in grades K-8, the MAPEs for lead times of 1, 2, 5, and 10 years were 0.3, 0.5, 1.2, and 4.3 percent, respectively, while those for projections of public school enrollment in grades 9-12 were 0.4, 0.7, 1.3, and 2.6 percent for the same lead times.

For projections of total enrollment in degree-granting institutions, an analysis of projection errors based on the past 6 editions of *Projections of Education Statistics* indicates that the MAPEs for lead times of 1, 2, and 5 years were 1.0, 0,9, and 2.2 percent, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 1.0 percent of the actual value, on the average. For more information on mean absolute percentage errors, see table A2, page 97.

Basic Methodology

The notation and equations that follow describe the basic models used to project public elementary and secondary enrollment.

Public Elementary and Secondary Enrollment

Let:

i = Subscript denoting age

j = Subscript denoting grade

t = Subscript denoting time

K_t = Enrollment at the nursery and kindergarten level

G_{jt} = Enrollment in grade j

G_{1t} = Enrollment in grade 1

E_t = Enrollment in elementary special and ungraded programs

S_t = Enrollment in secondary special and ungraded programs

PG_t = Enrollment in postgraduate programs

P_{it} = Population age i

RK_t = Enrollment rate for nursery and kindergarten

RG_{1t} = Enrollment rate for grade 1

RE_t = Enrollment rate for elementary special and ungraded programs

RS_t = Enrollment rate for secondary special and ungraded programs

RPG_t = Enrollment rate for postgraduate programs

EG_t = Total enrollment in elementary grades (K-8)

SG_t = Total enrollment in secondary grades (9-12)

R_{jt} = Progression rate for grade j: the proportion that enrollment in grade j in year t is of enrollment in grade j - 1 in year t-1.

Then:

$$EG_t = K_t + E_t + \sum_{j=1}^{8} G_{jt}$$

$$SG_t = S_t + PG_t + \sum_{j=9}^{12} G_{gt}$$

Where:

$$K_t = RK_t(P_{5t})$$

$$G_{jt} = R_{jt}\left(G_{j-1,t-1}\right)$$

$$E_t = RE_t\left(\sum_{j=5}^{13} P_{it}\right)$$

$$G_{1t} = RG_{it}(P_{6t})$$

$$S_t = RS_t\left(\sum_{i=14}^{17} P_{it}\right)$$

$$PG_t = RPG_t(P_{18t})$$

Higher Education Enrollment

For institutions of higher education, projections were computed separately by sex and attendance status of student. The notation and equations are:

Let:

i = Subscript denoting age except:

i = 25: ages 25-29

i = 26: ages 30-34

i = 27: ages 35 and over for enrollment (35-44 for population)

t = Subscript denoting year

E_{it} = Enrollment of students age i

P_{it} = Population age i

R_{it} = Enrollment rate for students age i

T_{it} = Total enrollment for particular subset of students: full-time men, full-time women, part-time men, part-time women

Then:

$$T_{it} = \sum_{i=16}^{27} E_{it}$$

Where:

$$E_{it} = R_{it}(P_{it})$$

Methodological Tables

Tables A1.11 and A1.12 give the rates used to calculate projections of enrollments and basic assumptions underlying enrollment projections.

Private School Enrollment

This edition is the first report that contains projected trends in elementary and secondary enrollment by grade level in private schools produced using the grade progression rate method.

Private school enrollment data from the National Center for Education Statistics' Private School Universe Survey for 1989-90, 1991-92, 1993-94, 1995-96, 1997-98, and 1999-2000 were used to develop these projections. In addition, population estimates for 1989 to 1999 and population projections for 2000 to 2011 from the U.S. Department of Commerce, Bureau of the Census were used to develop the projections.

The grade progression rate method was used to project private elementary and secondary school enrollment. The grade progression rate method starts with 6-year-olds entering first grade and then follows their progress through private elementary and secondary schools. The method requires calculating the ratio of the number of children in one year who "survive" the year and enroll in the next grade the following year.

Projections of enrollment in private elementary and secondary schools were developed using primarily the grade progression rate method. Kindergarten and first grade enrollments are based on projected enrollment rates of 5- and 6-year-olds. These projected enrollment rates are applied to population projections of 5- and 6-year-olds developed by the Bureau of the Census.

Enrollments in grades 2 through 12 are based on projected grade progression rates. These projected rates are then applied to the current enrollment by grade to yield grade-by-grade projections for future years. Enrollment rates of 5- and 6-year-olds and grade progression rates are projected using single exponential smoothing. Elementary ungraded and special enrollments and secondary ungraded and special enrollments are projected to remain constant at their 1999 levels. To obtain projections of total enrollment, projections of enrollments for the individual grades (kindergarten through 12) and ungraded and special classes were summed.

The grade progression rate method assumes that past trends in factors affecting private school enrollments will continue over the projection period. This assumption implies that all factors influencing enrollments will display future patterns consistent with past patterns. This method implicitly includes the net effect of such factors as migration, dropouts, deaths, nonpromotion, and transfers to and from public schools.

Mean absolute percentage errors (MAPEs) of the projection accuracy of private school enrollment were not developed because these projections were prepared for the first time using a new data source and methodology. As additional data becomes available MAPEs can then be calculated.

State-Level

This edition contains projected trends in elementary and secondary enrollment by grade level in public schools from 2000 to the year 2011. This is the seventh report on state-level projections for public school elementary and secondary education statistics.

Public school enrollment data from the National Center for Education Statistics' Common Core of Data survey for 1970 to 1999 were used to develop these projections. This survey does not collect data on enrollment for private schools. In addition, population estimates for 1970 to 1999 and population projections for 2000 to 2011 from the U.S. Department of Commerce, Bureau of the Census were used to develop the projections.

Table A1.11 describes the number of years, projection methods, and smoothing constants used to project enrollments in public schools. Also included in table A1.11 is the procedure for choosing the different smoothing constants for the time series models.

Projections of enrollment in public elementary and secondary schools by state were developed using primarily the grade progression rate method. Kindergarten and first grade enrollments are based on projected enrollment rates of 5- and 6-year-olds. These projected enrollment rates are applied to population projections of 5- and 6-year-olds developed by the Bureau of the Census.

Enrollments in grades 2 through 12 are based on projected grade progression rates in each state. These projected rates are then applied to the current enrollment by grade to yield grade-by-grade projections for future years. Enrollment rates of 5- and 6-year-olds and grade progression rates are projected using single exponential smoothing. Elementary ungraded and special enrollments and secondary ungraded and special enrollments are projected to remain constant at their 1998 levels. To obtain projections of total enrollment, projections of enrollments for the individual grades (kindergarten through 12) and ungraded and special classes were summed.

The grade progression rate method assumes that past trends in factors affecting public school enrollments will continue over the projection period. This assumption implies that all factors influencing enrollments will display future patterns consistent with past patterns. Therefore, this method has limitations when applied to states with unusual changes in migration rates. This method implicitly includes the net effect of such factors as migration, dropouts, deaths, nonpromotion, and transfers to and from private schools.

Adjustment to National Projections

The sum of the projections of state enrollments was adjusted to equal the national projections of public school K-12, K-8, and 9-12 enrollments shown in table 1. For details on the methods used to develop the national projections for this statistic, see the section on national enrollment projections in this appendix.

Table A1.1.—College enrollment rates, by age, sex, and attendance status, with middle alternative projections: Fall 1999, 2006, and 2011

Age, sex, and attendance status	Actual	Projected	
	1999	2006	2011
Men			
Full-time			
16 years old	0.0	0.2	0.2
17 years old	1.9	3.6	3.7
18 years old	28.2	31.4	32.0
19 years old	33.6	33.6	34.2
20 years old	31.5	29.6	30.0
21 years old	27.2	27.2	27.6
22 years old	22.4	18.6	19.0
23 years old	11.3	13.5	13.8
24 years old	10.8	10.3	10.5
25 to 29 years old	4.6	4.6	4.7
30 to 34 years old	1.4	1.7	1.8
35 to 44 years old	0.8	0.9	0.9
Part-time			
16 years old	0.0	0.1	0.1
17 years old	0.3	0.7	0.7
18 years old	4.5	4.8	4.8
19 years old	10.2	7.3	6.9
20 years old	6.2	6.6	6.7
21 years old	6.5	6.5	6.5
22 years old	6.5	8.3	8.4
23 years old	6.0	6.5	6.6
24 years old	7.5	5.3	5.4
25 to 29 years old	5.2	5.7	5.8
30 to 34 years old	3.2	3.9	4.0
35 to 44 years old	3.3	3.7	3.7
Women			
Full-time			
16 years old	0.2	0.1	0.1
17 years old	2.6	4.0	4.5
18 years old	37.2	45.0	46.7
19 years old	44.5	44.8	46.6
20 years old	33.4	38.5	40.2
21 years old	29.3	34.3	35.9
22 years old	20.5	20.4	21.1
23 years old	16.1	16.0	16.4
24 years old	10.2	12.1	12.7
25 to 29 years old	5.0	4.8	5.1
30 to 34 years old	2.2	2.6	2.8
35 to 44 years old	1.8	2.1	2.2
Part-time			
16 years old	0.0	0.0	0.0
17 years old	1.1	0.7	0.7
18 years old	7.1	6.5	6.5
19 years old	8.2	7.6	7.3
20 years old	7.5	8.0	8.1
21 years old	8.7	7.9	7.9
22 years old	9.6	10.7	11.1
23 years old	8.2	8.5	8.8
24 years old	9.7	7.4	7.6
25 to 29 years old	6.6	7.6	7.9
30 to 34 years old	5.0	5.4	5.8
35 to 44 years old	5.9	7.8	8.2

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model.

(This table was prepared May 2001.)

Table A1.2.—Equations for full-time and part-time college enrollment rates of men

Independent variable	Coefficient	Standard error	T-statistic	R^2	F-statistic
Full-time					
Constant	-5.05	0.17	-29.2	0.99	880.1
Dummy18	2.58	0.11	24.1		
Dummy19	2.72	0.11	25.4		
Dummy20	2.55	0.12	21.0		
Dummy21	2.43	0.11	21.3		
Dummy22	1.95	0.14	13.5		
Dummy23	1.54	0.13	11.8		
Dummy24	1.21	0.15	8.2		
Dummy25-29	0.40	0.14	2.8		
Dummy30-34	-0.61	0.11	-5.3		
Dummy35-44	-1.33	0.16	-8.2		
LNURM	0.07	0.03	2.1		
LNCPIMA	0.32	0.03	11.6		
Rho17	0.43	0.19	2.3		
Rho18	0.57	0.17	3.3		
Rho19	0.32	0.20	1.6		
Rho20	0.48	0.20	2.4		
Rho21	0.33	0.19	1.7		
Rho22	0.63	0.16	4.0		
Rho23	0.39	0.21	1.9		
Rho24	0.72	0.14	5.1		
Rho25-29	0.64	0.13	5.0		
Rho30-34	0.40	0.13	3.2		
Rho35-44	0.69	0.11	6.1		
Part-time					
Constant	-6.11	0.21	-29.4	0.92	126.5
Dummy18	2.34	0.08	28.0		
Dummy19	2.73	0.24	11.2		
Dummy20	2.67	0.08	35.5		
Dummy21	2.61	0.11	24.4		
Dummy22	2.76	0.09	31.3		
Dummy23	2.43	0.09	28.1		
Dummy24	2.17	0.10	22.7		
Dummy25-29	2.19	0.11	20.6		
Dummy30-34	1.76	0.15	11.5		
Dummy35-44	1.67	0.09	19.1		
LNCPIMA	0.20	0.04	5.6		
Rho17	-0.38	0.21	-1.8		
Rho18	0.16	0.21	0.8		
Rho19	0.85	0.14	5.9		
Rho20	0.33	0.20	1.7		
Rho21	0.64	0.17	3.7		
Rho22	0.34	0.26	1.3		
Rho23	-0.08	0.20	-0.4		
Rho24	0.33	0.20	1.7		
Rho25-29	0.67	0.12	5.4		
Rho30-34	0.80	0.10	8.0		
Rho35-44	0.59	0.11	5.5		

R^2 = Coefficient of determination.

F-Statistic = Obtained statistic for the F value.

Where:

Dummy(age) = 1 for each age and 0 otherwise.
Rho(age) = Autocorrelation coefficient for each age.
LNURM = Log unemployment rate.
LNCPIMA = Log of four-period weighted average of per capita real disposable income.

NOTE: The regression method used to estimate the full-time and part-time equations was pooled least squares with first-order autocorrelation correction. The time period used to estimate the equations is from 1975 to 1999. The number of observations is 275. For additional information, see *The Modern Forecaster* by Hans Levenbach and James P. Cleary (Van Nostrand Reinhold Company Inc., New York, 1984, pp. 354-373).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model.

(This table was prepared May 2001.)

Table A1.3.—Equations for full-time and part-time college enrollment rates of women

Independent variable	Coefficient	Standard error	T-statistic	R^2	F-statistic
Full-time					
Constant	-8.38	0.51	-16.4	0.99	922.6
Dummy18	3.01	0.49	6.2		
Dummy19	3.03	0.48	6.3		
Dummy20	2.79	0.48	5.8		
Dummy21	2.60	0.48	5.4		
Dummy22	1.86	0.48	3.9		
Dummy23	1.51	0.48	3.1		
Dummy24	1.20	0.47	2.6		
Dummy25-29	0.31	0.51	0.6		
Dummy30-34	-0.36	0.49	-0.7		
Dummy35-44	-0.57	0.50	-1.1		
LNURM	0.10	0.06	1.6		
LNCPIMA	0.92	0.04	22.2		
Rho17	0.90	0.10	8.7		
Rho18	0.63	0.15	4.1		
Rho19	-0.38	0.19	-2.0		
Rho20	0.03	0.21	0.1		
Rho21	0.44	0.20	2.3		
Rho22	0.76	0.13	5.8		
Rho23	0.78	0.14	5.7		
Rho24	0.70	0.15	4.5		
Rho25-29	0.67	0.16	4.3		
Rho30-34	0.13	0.22	0.6		
Rho35-44	0.08	0.20	0.4		
Part-time					
Constant	-7.91	0.50	-15.7	0.77	37.0
Dummy18	2.88	0.47	6.2		
Dummy19	3.00	0.52	5.8		
Dummy20	3.00	0.49	6.2		
Dummy21	2.89	0.52	5.6		
Dummy22	3.04	0.48	6.3		
Dummy23	2.71	0.48	5.6		
Dummy24	2.50	0.48	5.2		
Dummy25-29	2.45	0.47	5.2		
Dummy30-34	2.13	0.52	4.1		
Dummy35-44	2.46	0.47	5.2		
LNCPIMA	0.50	0.03	15.8		
Rho17	0.38	0.19	1.9		
Rho18	0.02	0.25	0.1		
Rho19	0.75	0.19	4.0		
Rho20	0.26	0.20	1.3		
Rho21	0.62	0.20	3.2		
Rho22	0.27	0.20	1.3		
Rho23	0.38	0.21	1.8		
Rho24	0.49	0.20	2.5		
Rho25-29	0.47	0.19	2.4		
Rho30-34	0.86	0.13	6.9		
Rho35-44	0.70	0.17	4.2		

R^2 = Coefficient of determination.

F-Statistic = Obtained statistic for the F value.

Where:

Dummy(age) = 1 for each age and 0 otherwise.
Rho(age) = Autocorrelation coefficient for each age.
LNURM = Log unemployment rate.
LNCPIMA = Log of four-period weighted average of per capita real disposable income.

NOTE: The regression method used to estimate the full-time and part-time equations was pooled least squares with first-order autocorrelation correction. The time period used to estimate the equations is from 1975 to 1999. The number of observations is 275. For additional information, see *The Modern Forecaster* by Hans Levenbach and James P. Cleary (Van Nostrand Reinhold Company Inc., New York, 1984, pp. 354-373).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model.

(This table was prepared May 2001.)

BEST COPY AVAILABLE

Table A1.4.—Enrollment rates in public schools, by grade level: Fall 1999, 2006, and 2011

Grade level	Population base age	1999	Projected	
			2006	2011
Kindergarten	5	106.5	105.3	105.3
Grade 1	6	93.4	93.4	93.4
Elementary ungraded and special education	5-13	1.2	1.3	1.3
Secondary ungraded and special education	14-17	1.2	1.3	1.3
Postgraduate	18	0.2	0.3	0.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Elementary and Secondary Enrollment Model.

(This table was prepared May 2001.)

Table A1.5.—Public school grade progression rates: Fall 1999, 2006, and 2011

Grade	1999	Projected	
		2006	2011
1 to 2	98.1	97.9	97.9
2 to 3	100.2	100.2	100.2
3 to 4	99.7	99.8	99.8
4 to 5	100.3	100.3	100.3
5 to 6	101.3	101.2	101.2
6 to 7	101.3	101.3	101.3
7 to 8	99.1	98.9	98.9
8 to 9	113.1	112.7	112.7
9 to 10	88.6	88.9	88.9
10 to 11	89.7	89.8	89.8
11 to 12	92.1	91.6	91.6

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Elementary and Secondary Enrollment Model.

(This table was prepared May 2001.)

Table A1.6.—Full-time enrollment, by level enrolled and type of institution, as a percent of total enrollment, for each age and sex classification: Fall 1999, 2006, and 2011

Age	Men			Women		
	1999	2006	2011	1999	2006	2011
	Undergraduate, 4-year institutions					
16 to 17 years old	72.8	62.9	62.9	72.6	67.0	67.0
18 to 19 years old	66.2	65.6	65.6	66.4	67.8	67.8
20 to 21 years old	76.2	77.0	77.0	76.3	78.3	78.3
22 to 24 years old	62.8	63.6	63.6	62.0	61.0	61.0
25 to 29 years old	43.5	44.5	44.5	54.6	47.9	47.9
30 to 34 years old	44.0	37.4	37.4	39.2	39.2	39.2
35 years and over	29.5	33.8	33.8	40.6	41.0	41.0
	Undergraduate, 2-year institutions					
16 to 17 years old	27.2	35.8	35.8	27.4	32.4	32.4
18 to 19 years old	32.8	33.6	33.6	32.7	31.4	31.4
20 to 21 years old	22.2	21.4	21.4	21.0	19.6	19.6
22 to 24 years old	15.2	16.4	16.4	16.8	17.7	17.7
25 to 29 years old	20.4	16.7	16.7	14.9	20.5	20.5
30 to 34 years old	12.4	16.8	16.8	34.3	36.5	36.5
35 years and over	28.2	25.8	25.8	27.0	30.2	30.2
	Postbaccalaureate, 4-year institutions					
16 to 17 years old	0.0	1.4	1.4	0.0	0.6	0.6
18 to 19 years old	1.0	0.8	0.8	0.9	0.8	0.8
20 to 21 years old	1.6	1.7	1.7	2.7	2.1	2.1
22 to 24 years old	22.1	20.0	20.0	21.2	21.4	21.4
25 to 29 years old	36.2	38.8	38.8	30.5	31.6	31.6
30 to 34 years old	43.6	45.8	45.8	26.5	24.3	24.3
35 years and over	42.2	40.4	40.4	32.4	28.8	28.8

NOTE: Projections shown for 2006 and 2011 were adjusted to add to 100 percent before computing projections shown in tables 10 through 22.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model.

(This table was prepared May 2001.)

Table A1.7.—Part-time enrollment, by level enrolled and type of institution, as a percent of total enrollment, for each age and sex classification: Fall 1999, 2006, and 2011

Age	Men			Women		
	1999	2006	2011	1999	2006	2011
Undergraduate, 4-year institutions						
16 to 17 years old	0.0	1.1	1.1	0.0	7.7	7.7
18 to 19 years old	17.7	19.3	19.3	18.4	20.7	20.7
20 to 21 years old	27.8	26.6	26.6	29.6	28.9	28.9
22 to 24 years old	34.6	31.8	31.8	38.2	33.5	33.5
25 to 29 years old	24.4	26.5	26.5	27.0	25.8	25.8
30 to 34 years old	29.1	27.2	27.2	26.9	26.2	26.2
35 years and over	22.7	23.4	23.4	18.7	21.5	21.5
Undergraduate, 2-year institutions						
16 to 17 years old	100.0	97.8	97.8	100.0	91.3	91.3
18 to 19 years old	81.0	80.1	80.1	81.4	79.0	79.0
20 to 21 years old	71.7	72.9	72.9	69.9	69.7	69.7
22 to 24 years old	56.5	59.7	59.7	50.1	55.3	55.3
25 to 29 years old	57.6	53.4	53.4	48.0	50.8	50.8
30 to 34 years old	46.4	46.0	46.0	51.0	53.3	53.3
35 years and over	49.9	50.4	50.4	57.0	54.6	54.6
Postbaccalaureate, 4-year institutions						
16 to 17 years old	0.0	1.1	1.1	0.0	1.0	1.0
18 to 19 years old	1.3	0.6	0.6	0.2	0.3	0.3
20 to 21 years old	0.4	0.5	0.5	0.5	1.3	1.3
22 to 24 years old	8.9	8.5	8.5	11.7	11.2	11.2
25 to 29 years old	18.1	20.1	20.1	25.0	23.4	23.4
30 to 34 years old	24.6	26.8	26.8	22.1	20.5	20.5
35 years and over	27.3	26.2	26.2	24.3	24.0	24.0

NOTE: Projections shown for 2006 and 2011 were adjusted to add to 100 percent before computing projections shown in tables 10 through 22.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model.

(This table was prepared May 2001.)

Table A1.8.—Public college enrollment as a percent of total enrollment, by attendance status, sex, level enrolled, and type of institution: Fall 1999, 2006, and 2011

Enrollment category	Men			Women		
	1999	2006	2011	1999	2006	2011
Full-time, undergraduate, 4-year institutions	67.3	68.0	68.0	66.2	66.8	66.8
Part-time, undergraduate, 4-year institutions	71.4	71.6	71.6	68.3	67.9	67.9
Full-time, undergraduate, 2-year institutions	89.6	90.3	90.3	90.4	90.6	90.6
Part-time, undergraduate, 2-year institutions	98.9	98.8	98.8	98.8	98.6	98.6
Full-time, postbaccalaureate, 4-year institutions	53.0	53.5	53.5	54.2	55.3	55.3
Part-time, postbaccalaureate, 4-year institutions	56.9	57.4	57.4	62.1	62.8	62.8

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model.
(This table was prepared May 2001.)

Table A1.9.—Graduate enrollment as a percent of total postbaccalaureate enrollment, by sex, attendance status, and type and control of institution: Fall 1999, 2006, and 2011

Enrollment category	Men			Women		
	1999	2006	2011	1999	2006	2011
Full-time, 4-year, public	77.6	77.6	77.6	80.9	81.2	81.2
Part-time, 4-year, public	98.7	98.8	98.8	99.3	99.3	99.3
Full-time, 4-year, private	64.1	62.3	62.3	72.6	71.5	71.5
Part-time, 4-year, private	91.5	91.3	91.3	95.4	95.4	95.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model.
(This table was prepared May 2001.)

Table A1.10.—Full-time-equivalent of part-time enrollment as a percent of part-time enrollment, by level enrolled and by type and control of institution: Fall 1999, 2006, and 2011

Enrollment category	1999	2006	2011
Public, 4-year, undergraduate	40.4	40.4	40.4
Public, 2-year, undergraduate	33.6	33.6	33.6
Private, 4-year, undergraduate	39.3	39.3	39.3
Private, 2-year, undergraduate	39.7	39.7	39.7
Public, 4-year, graduate	36.2	36.2	36.2
Private, 4-year, graduate	38.2	38.2	38.2
Public, 4-year, first-professional	60.2	60.2	60.2
Private, 4-year, first-professional	54.7	54.6	54.6

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model.
(This table was prepared May 2001.)

Table A1.11—Number of years, projection methods, and smoothing constants used to project public school enrollments and high school graduates, by state

Projected state variable	Number of years (1970-1999)	Projection method	Smoothing constant	Choice of smoothing constant
Grade progression rates	30	Single exponential smoothing	0.4	Empirical research
Graduates/grade 12 enrollment	30	Single exponential smoothing	0.4	Empirical research

SOURCE: U.S. Department of Education, National Center for Education Statistics, State Public Elementary and Secondary Enrollment Model, and State Public High School Graduates Model. (This table was prepared June 2001.)

BEST COPY AVAILABLE

Table A1.12.—Enrollment (assumptions)

Variables	Assumptions	Alternatives	Tables
Elementary and Secondary enrollment	Age-specific enrollment rates will remain constant at levels consistent with the most recent rates.	Middle (no alternatives)	1, 2
	Public enrollment rates and public grade retention rates will remain constant at levels consistent with the most recent rates.	Middle (no alternatives)	1, 2
	The percentage of 7th and 8th grade public students enrolled in school organized as secondary schools will remain constant at levels consistent with the most recent rates.	Middle (no alternatives)	1, 2
College enrollment, by age			
Full-time	Age-specific enrollment rates by sex are a function of dummy variables by age, middle alternative log of four-period weighted average of real disposable income per capita, and middle alternative log unemployment rate by age group.	Middle	10 14-19
Part-time	Age-specific enrollment rates by sex are a function of dummy variables by age and the middle alternative log of four-period weighted average of real disposable income per capita.	Middle	10 14-19
College enrollment, by sex, attendance status, level enrolled, and type of institution	For each group and for each attendance status separately, percent of total enrollment by sex, level enrolled, and type of institution will follow past trends through 2011. For each age group and attendance status category, the sum of the percentages must equal 100 percent.	High, middle, and low	10 14-19
College enrollment, by control of institution	For each enrollment category, by sex, attendance status, and level enrolled, and by type of institution, public enrollment as a percent of total enrollment will remain constant at levels consistent with the most recent rates.	High, middle, and low	10 14-19
Graduate enrollment	For each enrollment category, by sex and attendance status of student, and by type and control of institution, graduate enrollment as a percent of postbaccalaureate enrollment will remain constant at levels consistent with the most recent rates.	High, middle, and low	20
Full-time-equivalent of part-time enrollment	For each enrollment category, by type and control of institution and level enrolled, the percent that full-time-equivalent of part-time enrollment is of part-time enrollment will remain constant at levels consistent with the most recent rates.	High, middle, and low	22

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Elementary and Secondary Enrollment Model and Enrollment in Degree-Granting Institutions Model. (This table was prepared June 2001.)

A2. High School Graduates

National

Projections of public high school graduates were developed in the following manner. The number of public high school graduates was expressed as a percent of grade 12 enrollment in public schools for 1972 to 1999. This percent was projected using single exponential smoothing and applied to projections of grade 12 enrollment to yield projections of high school graduates in public schools. (This percent does not make any specific assumptions regarding the dropout rate. The effect of the 12th grade dropout proportion is reflected implicitly in the graduate proportion.) The grade 12 enrollment was projected based on grade progression rates. This percent was assumed to remain constant at levels consistent with the most recent rates. This method assumes that past trends in factors affecting graduation ratios, such as dropouts, migration, and public/private transfers will continue over the projection period. In addition to student behaviors, the projected number of graduates could be impacted by changes in policies affecting graduation requirements.

The number of private high school graduates was expressed as a percent of grade 12 enrollment in private schools for 1989 to 1999. This percent was projected using single exponential smoothing and applied to projections of grade 12 enrollment to yield projections of high school graduates in private schools. (This percent does not make any specific assumptions regarding the dropout rate. The effect of the 12th grade dropout proportion is reflected implicitly in the graduate proportion.) The grade 12 enrollment was projected based on grade progression rates. This percent was assumed to remain constant at levels consistent with the most recent rates. This method assumes that past trends in factors affecting graduation ratios, such as dropouts, migration, and public/private transfers will continue over the projection period. In addition to student behaviors, the projected number of graduates could be impacted by changes in policies affecting graduation requirements.

Projection Accuracy

An analysis of projections from models used in the past 18 editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for projections of public high school graduates were 0.7 percent for 1 year ahead, 0.9 percent for 2 years ahead, 1.7 percent for 5 years ahead, and 4.1 percent for 10 years ahead. For the 1-year-ahead prediction, this means that one would expect the projection to be within 0.7 percent of the actual value, on the average. For more information on the mean absolute percentage errors, see table A2, page 97.

State-Level

This edition contains projections of high school graduates from public schools by state from 1999-2000 to 2010-11. Public school graduate data from the National Center for Education Statistics' Common Core of Data survey for 1969-70 to 1998-99 were used to develop these projections. This survey does not collect graduate data for private schools.

Projections of public high school graduates by state were developed in the following manner. For each state, the number of public high school graduates was expressed as a percent of grade 12 enrollment in public schools for 1970 to 1999. This percent was projected using single exponential smoothing and applied to projections of grade 12 enrollment to yield projections of high school graduates in public schools. Projections of grade 12 enrollment were developed based on the grade progression rates discussed in section A1, Enrollment. This percent was assumed to remain constant at levels consistent with the most recent rates. This method assumes that past trends in factors affecting public high school graduates will continue over the projection period.

A3. Earned Degrees Conferred

Projections of associate's, bachelor's, master's, doctor's, and first-professional degrees by sex were based on demographic models that relate degree awards to college-age populations and college enrollment by level enrolled and attendance status.

Associate's Degrees

Associate's degree projections by sex were based on undergraduate enrollment by attendance status in 2-year institutions. Results of the regression analysis used to project associate degrees by sex are shown in table A3.1.

Bachelor's Degrees

Bachelor's degree projections by sex were based on the 18- to 24-year-old population and undergraduate enrollment by attendance status in 4-year institutions. Results of the regression analysis used to project bachelor's degrees by sex are shown in table A3.1.

Master's Degrees

Master's degree projections by sex were based on full-time graduate enrollment by sex. Results of the regression analysis used to project master's degrees by sex are shown in table A3.1.

Doctor's Degrees

Doctor's degree projections for men were based on full-time male graduate enrollment and the unemployment rate. Doctor's degree projections for women were based on the 35- to 44-year-old population of women and full-time female graduate enrollment. The results of the regression analysis used to project doctor's degrees by sex are shown in table A3.1.

First-Professional Degrees

First-professional degree projections by sex were based on first-professional enrollment by attendance status in 4-year institutions. Results of the regression analysis used to project first-professional degrees by sex are shown in table A3.1.

Methodological Tables

These tables describe equations used to calculate projections (table A3.1), and basic assumptions underlying projections (table A3.2).

Projection Accuracy

An analysis of projection errors from similar models used in the past 6 editions *of Projections of Education Statistics* indicates that mean absolute percentage errors (MAPEs) for associate"s degrees were 1.5 percent for 1 year out, 3.4 percent for 2 years out, and 6.4 percent for 5 years out. For the 1-year-out prediction, this means that one would expect the projection to within 1.5 percent of the actual value, on the average. MAPEs for bachelor's degree projections were 1.0 percent for 1 year out, 1.8 percent for 2 years out, and 1.0 percent for 5 years out. MAPEs for master's degrees were 1.0, 3.8, and 2.1, respectively. For doctor's degrees, the MAPEs were 2.0, 2.8, and 3.7 percent, respectively. For first-professional degrees, the MAPEs were 1.6, 1.5, and 3.8 percent, respectively. For more information on the mean absolute percentage errors, see table A2, page 97.

Table A3.1.—Equations for earned degrees conferred

Dependent Variable	Equation					R^2	Durbin-Watson statistic[1]	Estimation technique[2]	Rho	Time period
Associate's degrees	ASSOCM	=	108,173	+ 55.7UGFT2M (1.5)	+ 37.0UGPT2M (2.2)	0.81	1.6	AR1	0.69 (4.1)	1970-71 to 1997-98
Associate's degrees Women	ASSOCW	=	83,441	+ 194.0UGFT2W (6.2)		0,99	1.5	AR1	0.98 (39.0)	1970-71 to 1997-98
Bachelor's degrees Men	BACHM	=	251,901	- 10.8P1824M (-3.4)	+ 168.4UGFT4M (5.6)	0.88	1.7	AR1	0.63 (3.9)	1970-71 to 1997-98
Bachelor's degrees Women	BACHW	=	248,513	- 18.3P1824W (-4.7)	+ 233.9UGFT4W (21.7)	0.99	1.2	AR1	0.68 (4.7)	1970-71 to 1997-98
Master's degrees Men	MASTM	=	34,533	+ 405.9GFTM (4.5)		0.92	1.3	AR1	0.89 (11.2)	1970-71 to 1997-98
Master's degrees Women	MASTW	=	38,964	+ 530.5GFTW (13.2)		0.99	1.1	AR1	0.91 (13.2)	1972-73 to 1997-98
Doctor's degrees Men	DOCM	=	18,405	+ 26.5GFTM1 (1.6)	- 2,796.3RUC (-0.2)	0.91	1.1	AR1	0.96 (24.2)	1970-71 to 1997-98
Doctor's degrees Women	DOCW	= -	1,632	+ 0.3P3544W (2.4)	+ 35.6GFTW (5.8)	0.99	2.2	AR1	0.70 (3.8)	1972-73 to 1997-98
First professional degrees Men	FPROM	=	10,572	+ 228.0FPFTM (7.1)		0.87	1.9	AR1	0.48 (2.4)	1970-71 to 1997-98
First professional degrees Women	FPROW	= -	1,257	+ 288.9FPFTW (22.2)	+ 201.5FPPTW (1.9)	0.99	1.5	OLS		1971-72 to 1997-98

[1] For an explanation of the Durbin-Watson statistic, see J. Johnston, *Econometric Methods* , New York: McGraw-Hill, 1972, pages 251-252.

[2] AR1 indicates an estimation procedure for correcting the problem of first-order autocorrelation. OLS indicates Ordinary Least Squares. For a general discussion of the problem of autocorrelation, and the method used to forecast in the presence of autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics* , New York: John Wiley and Sons, 1985, pages 315- 318.

Where:

ASSOCM = Number of associate's degrees awarded to men
ASSOCW = Number of associate's degrees awarded to women
BACHM = Number of bachelor's degress awarded to men
BACHW = Number of bachelor's degress awarded to women
MASTM = Number of master's degrees awarded to men
MASTW = Number of master's degrees awarded to women
DOCM = Number of doctor's degress awarded to men
DOCW = Number of doctor's degress awarded to women
FPROM = Number of first-professional degrees awarded to men
FPROW = Number of first-professional degrees awarded to women
UGFT2M = Full-time male undergraduate enrollment in 2-year institutions, lagged 2 years, in thousand
UGPT2M = Part-time male undergraduate enrollment in 2-year institutions, lagged 2 years, in thousands
UGFT2W = Full-time female undergraduate enrollment in 2-year institutions, lagged 2 years, in thousands
P1824M = Population of 18- to 24-year-old men, in thousands
P1824W = Population of 18- to 24-year-old women, in thousands
UGFT4M = Full-time male undergraduate enrollment in 4-year institutions, lagged 2 years, in thousands
UGFT4W = Full-time female undergraduate enrollment in 4-year institutions, lagged 3 years, in thousands
GFTM = Full-time male graduate enrollment, in thousands
GFTW = Full-time female graduate enrollment, in thousands
P3544W = Population of 35- to 44-year-old women, in thousands
GFTM1 = Full-time male graduate enrollment lagged one year, in thousands
GFTW = Full-time female graduate enrollment, in thousands
RUC = Unemployment rate
FPFTM = Full-time male first-professional enrollment lagged 2 years, in thousands
FPFTW = Full-time female first-professional enrollment lagged 1 year, in thousands
FPPTW = Part-time female first-professional enrollment lagged 2 years, in thousands

NOTE: R^2 indicates the coefficient of determination. Numbers in parentheses are t-statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Earned Degrees Conferred Model.

(This table was prepared June 2001.)

Table A3.2.—Earned degrees conferred (assumptions)

Variables	Assumptions	Alternatives	Tables
Associate's degrees			
Men	The number of associate's degrees awarded to men is a linear function of full- and part-time male undergraduate enrollment in 2-year institutions lagged 2 years. This relationship will continue through 2010-11.	Middle	26
Women	The number of associate's degrees awarded to women is a linear function of full-time female undergraduate enrollment in 2-year institutions lagged 2 years. This relationship will continue through 2010-11.	Middle	26
Bachelor's degrees			
Men	The number of bachelor's degrees awarded to men is a linear function of full-time male undergraduate enrollment in 4-year institutions lagged 2 years and the male 18- to 24-year-old population. This relationship will continue through 2010-11.	Middle	27
Women	The number of bachelor's degrees awarded to women is a linear function of full-time female undergraduate enrollment in 4-year institutions lagged 3 years and the female 18- to 24-year-old population. This relationship will continue through 2010-11.	Middle	27
Master's degrees			
Men	The number of master's degrees awarded to men is a linear function of full-time male graduate enrollment. This relationship will continue through 2010-11.	Middle	28
Women	The number of master's degrees awarded to women is a linear function of full-time female graduate enrollment. This relationship will continue through 2010-11.	Middle	28
Doctor's degrees			
Men	The number of doctor's degrees awarded to men is a linear function of full-time male graduate enrollment lagged one year and the unemployment rate. This relationship will continue through 2010-11.	Middle	29
Women	The number of doctor's degrees awarded to women is a linear function of the 35- to 44-year-old population and full-time female graduate enrollment. This relationship will continue through 2010-11.	Middle	29
First-professional degrees			
Men	The number of first-professional degrees awarded to men is a linear function of full-time male first-professional enrollment lagged 2 years. This relationship will continue through 2010-11.	Middle	30
Women	The number of first-professional degrees awarded to women is a linear function of full-time female first-professional enrollment lagged 1 year and part-time female first-professional enrollment lagged 2 years. This relationship will continue through 2010-11.	Middle	30

SOURCE: U.S. Department of Education, National Center for Education Statistics, Earned Degrees Conferred Model.
(This table was prepared June 2001.)

A4. Elementary and Secondary Teachers

Public Elementary and Secondary Teachers

The number of public elementary and secondary teachers was projected separately for the elementary and secondary levels. The elementary teachers were modeled as a function of local education revenue receipts from state sources per capita and elementary enrollment. Secondary teachers were modeled as a function of local education revenue receipts from state sources per capita (lagged 3 years) and secondary enrollment. Local education revenue receipts from state sources were in constant 1982-84 dollars.

The equations in this section should be viewed as forecasting rather than structural equations, as the limitations of time and available data precluded the building of a large-scale, structural teacher model. The particular equations shown were selected on the basis of their statistical properties, such as coefficients of determination (R_2s), the t-statistics of the coefficients, the Durbin-Watson statistic, and residual plots.

The multiple regression technique will yield good forecasting results only if the relationships that existed among the variables in the past continue throughout the projection period.

The public elementary teacher model is:

$$ELTCH = b_0 + b_1SGRANT + b_2ELENR$$

where:

ELTCH is the number of public elementary teachers.

SGRANT is the level of education revenue receipts from state sources per capita in constant 1982-84 dollars; and

ELENR is the number of students enrolled in public elementary schools.

Each variable affects the number of teachers in the expected way. As the state spends more money on education and as enrollment increases, the number of elementary teachers hired increases.

The public secondary teacher model is:

$$SCTCH = b_0 + b_1SGRANT3 + b_2SCENR$$

where:

SCTCH is the number of public secondary teachers;

SGRANT3 is the level of education revenue receipts from state sources per capita in constant 1982-84 dollars, lagged 3 years; and

SCENR is the number of students enrolled in public secondary schools.

Each variable affects the number of teachers in the expected way. As the state spends more money on education and as enrollment increases, the number of secondary teachers hired increases.

Table A4.1 summarizes the results for the elementary and secondary public teacher models.

Enrollment is by organizational level, not by grade level. Thus, secondary enrollment is not the same as grade 9-12 enrollment because some states count some grade 7 and 8 enrollment as secondary. Therefore, the distribution of the number of teachers is also by organizational level, not by grade span.

Private Elementary and Secondary Teachers

Projections of private elementary and secondary teachers were derived in the following manner. For 1960 to 1998, the ratio of private school teachers to public school teachers was calculated by organizational level. These ratios were projected using single exponential smoothing, yielding a constant value over the projection period. This constant value was then applied to projections of public school teachers by organizational level to yield projections of private school teachers. This method assumes that the future pattern in the trend of private school teachers will be the same as that for public school teachers. The reader is cautioned that a number of factors could alter the assumption of constant ratios over the projection period.

The total number of public school teachers, enrollment by organizational level, and education revenue receipts from state sources used in these projections were from the Common Core of Data (CCD) survey conducted by NCES. The proportion of public school teachers by organizational level was taken from the National Education Association and then applied to the total number of teachers from CCD to produce the number of teachers by organizational level.

Projection Accuracy

An analysis of projection errors from the past 12 editions of *Projections of Education Statistics* indicated that the mean absolute percentage errors (MAPEs) for projections of classroom teachers in public elementary and secondary schools were 1.9 percent for 1 year out, 1.3 percent for 2 years out, 1.9 percent for 5 years out, and 4.6 percent for 10 years out. For the 2-year-ahead prediction, this means that one would expect the projection to be within 1.3 percent of the actual value, on the average. For more information on the mean absolute percentage errors, see table A2, page 97.

Table A4.1.—Equations for public elementary and secondary teachers

Dependent Variable	Equation	R^2	Durbin-Watson statistic[1]	Estimation technique[2]	Rho	Time period
Elementary	ELTCH = 94.0 + 1.8SGRANT + 0.03ELENR	0.99	1.7	AR1	0.98	1960 to
	(5.9) (3.6)				(43.2)	1998
Secondary	SCTCH = 74.1 + 1.5SGRANT3 + 0.03SCENR	0.95	1.5	AR1	0.72	1965 to
	(10.4) (5.8)				(5.3)	1998

[1] For an explanation of the Durbin-Watson statistic, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, pages 251-252.

[2] AR1 indicates an estimation procedure for correcting the problem of first-order autocorrelation. For a general discussion of the problem of autocorrelation, and the method used to forecast in the presence of autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics*, New York: John Wiley and Sons, 1985, pages 315- 318.

Where:

ELTCH = Number of public elementary classroom teachers, in thousands
SCTCH = Number of public secondary classroom teachers, in thousands
SGRANT = Education revenue receipts from state sources per capita
SGRANT3 = Education revenue receipts from state sources per capita lagged 3 years
ELENR = Number of students enrolled in public elementary schools, in thousands
SCENR = Number of students enrolled in public secondary schools, in thousands

NOTE: R^2 indicates the coefficient of determination. Numbers in parentheses are t-statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Elementary and Secondary Teacher Model.

(This table was prepared June 2001.)

A5. Expenditures of Public Elementary and Secondary Schools

Econometric techniques were used to produce the projections for current expenditures and average teacher salaries. The equations in this chapter should be viewed as forecasting equations rather than structural equations. The particular equations shown were selected on the basis of their statistical properties, such as coefficients of determination (R^2s), the t-statistics of the variables, the Durbin-Watson statistic, and residual plots. These econometric models will yield good forecasting results only if the relationships that existed among the variables in the past continue throughout the projection period.

Elementary and Secondary School Current Expenditure Model

There has been a large body of work, both theoretical and empirical, on the demand for local public services such as education.* The elementary and secondary school current expenditure model is based on this work.

The model that is the basis for the elementary and secondary school current expenditure model has been called the median voter model. In brief, the theory states that spending for each public good in the community (in this case, education) reflects the preferences of the "median voter" in the community. This individual is identified as the voter in the community with the median income and median property value. Hence, the amount of spending in the community reflects the price of education facing the voter with the median income, as well as his income and tastes. There are competing models in which the level of spending reflects the choices of others in the community, such as the "bureaucrats." The median voter model was chosen as the basis of the elementary and secondary school current expenditure model as it has been the one most thoroughly studied.

There have been many empirical studies of the demand for education expenditures using the median voter model. In most instances, researchers have used cross-sectional data. The elementary and secondary school current expenditure model was built on the knowledge gained from these cross-sectional studies and was adapted from them for use in a time-series study.

In a median voter model, the demand for education expenditures is typically linked to four different types of variables: 1) measures of the income of the median voter; 2) measures of intergovernmental aid for education going indirectly to the median voter; 3) measures of the price to the median voter of providing one more dollar of education expenditures per pupil; and 4) any other variables that may affect one's tastes for education. The elementary and secondary school current expenditure model contains variables reflecting the first three types of variables. The model is:

$$\ln(\text{CUREXP}) = b_0 + b_1\ln(\text{PCI}) + b_2\ln(\text{SGRNT}) + b_3\ln(\text{ENRPOP})$$

where:

ln indicates the natural log;

CUREXP equals current expenditures of public elementary and secondary schools per pupil in fall enrollment in constant 1982–84 dollars;

PCI equals disposable income per capita in constant 1996 dollars;

SGRNT equals local governments' education revenue receipts from state sources, per capita, in constant year 1982–84 dollars; and

ENRPOP equals the ratio of fall enrollment to the population.

The model was estimated using the AR1 model for correcting for autocorrelation. This was done because the test statistics were significantly better than those from the ordinary least squares (OLS) estimation, and the Durbin-Watson statistic was in the inconclusive region when the model was estimated using OLS. This is the eighth edition of *Projections of Education Statistics* in which this method of estimation, rather than OLS, was used. Ordinary least squares was used in the previous four editions of *Projections of Education Statistics*. The model was estimated using the period from 1967–68 to 1998–99.

---

* For a review and discussion of this literature, see Inman, R. P. (1979), "The fiscal performance of local governments: An Interpretive Review," in *Current Issues in Urban Economics*, edited by P. Mieszkowski and M. Straszheim, Johns Hopkins Press, Baltimore, Maryland.

132

There are potential problems with using a model for local government education expenditures for the nation as a whole. Two such problems concern the variable SGRNT. First, the amount of money which local governments receive for education from state governments varies substantially by state. Second, the formulas used to apportion state moneys for education among local governments vary by state.

Beginning in 1988–89, there was a major change in the survey form used to collect data on current expenditures. This new survey form produces a more complete measure of current expenditures; therefore, the values for current expenditures are not completely comparable to the previously collected numbers. In a crosswalk study, data for a majority of states were also collected for 1986–87 and 1987–88 that were comparable to data from the new survey form. A comparison of these data with those from the old survey form suggests that the use of the new survey form may have increased the national figure for current expenditures by approximately 1.4 percent over what it would have been if the survey form had not been changed. When the model was estimated, all values for current expenditures before 1988–89 were increased by 1.4 percent.

The results for the model are shown in table A5.1. Each variable affects current expenditures in the direction that would be expected. With high levels of income (PCI) or revenue receipts from state source (SGRNT), the level of spending increases. As the number of pupils increases relative to the population (that is, as ENRPOP increases), the level of spending per pupil falls.

From the cross-sectional studies of the demand for education expenditures, we have an estimate of how sensitive current expenditures are to changes in PCI and ENRPOP. We can compare the results from this model with those from the cross-sectional studies. For this model, an increase in PCI of 1 percent, with SGRNT and ENRPOP held constant, would result in an increase of current expenditures per pupil in fall enrollment of approximately 0.67 percent. With PCI and SGRNT held constant, an increase of 1 percent in ENRPOP would result in a decrease in current expenditures per pupil in fall enrollment of approximately 0.33 percent. Both numbers are well within the range of what has been found in cross-sectional studies.

The results from this model are not completely comparable with those from any of the previous editions of *Projections of Education Statistics*. First, in earlier editions, average daily attendance, rather than fall enrollment, was used as the measure of enrollment in current expenditure per pupil and the ratio of enrollment to population variables. Second, with this edition the sample period used to estimate the model began with 1967–68 rather than 1959–60 as with previous editions.

There have been other changes with the model used in earlier editions. As with the previous two editions, the population number for each school year is the Bureau of the Census's July 1 population number for the upcoming school year. In earlier editions, each school year's population number was the average of an economic consulting firm's estimated population numbers of each quarter in that school year. Also, there have been changes in the definition of the disposable income.

Projections for total current expenditures were made by multiplying the projections for current expenditures per pupil in fall enrollment by projections for fall enrollment. The projections for total current expenditures were divided by projections for average daily attendance to produce projections of current expenditures per pupil in average daily attendance. Projections were developed in 1982–84 dollars and then placed in 1999–2000 dollars using the Consumer Price Index. Current-dollar projections were produced by multiplying the constant-dollar projections by projections for the Consumer Price Index. The Consumer Price Index and the other economic variables used in calculating the projections presented in this report were placed in school year terms rather than calendar year terms.

Three alternative sets of projections for current expenditures are presented: the middle alternative projections; the low alternative projections; and the high alternative projections. The alternative sets of projections differ because of varying assumptions about the growth paths for disposable income and revenue receipts from state sources.

The alternative sets of projections for the economic variables, including disposable income, were developed using three economic scenarios prepared by the economic consulting firm DRI-WEFA.

DRI•WEFA's February 2001 trend scenario was used as a base for the middle alternative projections of the economic variables. DRI•WEFA's trend scenario depicts a mean of possible paths that the economy could take over the forecast period, barring major shocks. The economy, in this scenario, evolves smoothly, without major fluctuations.

DRI•WEFA's February 2001 pessimistic scenario was used for the low alternative projections and DRI•WEFA's February 2001 optimistic scenario was used for the high alternative projections.

In the middle alternative projections, disposable income per capita rises each year from 2001–02 to

2010–11 at rates between 2.2 percent and 3.8 percent. In the low alternative projections, disposable income per capita ranges between 1.7 percent and 2.9 percent, and in the high alternative projections, disposable income per capita rises at rates between 2.6 percent and 5.2 percent.

The alternative projections for revenue receipts from state sources were produced using the following model:

$$\begin{aligned} \ln(SGRNT) = b_0 &+ b_1\ln(PERTAX1) \\ &+ b_2\ln(ENRPOP) \\ &+ b_3\ln(RCPIANN/RCPIANN1) \end{aligned}$$

where:

ln indicates the natural log;

SGRNT equals local governments' education revenue receipts from state sources, per capita, in constant 1982–84 dollars;

PERTAX1 equals personal taxes and nontax receipts to state and local governments, per capita, in constant 1982–84 dollars lagged one period;

ENRPOP equals the ratio of fall enrollment to the population;

RCPIANN equals the inflation rate measured by the Consumer Price Index; and

RCPIANN1 equals the inflation rate measured by the Consumer Price Index lagged 1 period.

This equation was estimated using the AR1 model for correcting for autocorrelation. The model was estimated using the period from 1967–68 to 1998–99. These models are shown in table A5.1.

The values of the coefficients in this model follow expectations. As state governments receive more revenue (higher PERTAX1), they have more money to send to local governments for education. As the enrollment increases relative to the population (higher ENRPOP), so does the amount of aid going to education. Finally, the real dollar values of revenue receipts from state governments to local governments would fall, other things being equal, in years with rapidly increasing inflation (higher RCPIANN/RCPIANN1).

The model used in the previous four edition of the *Projections of Education Statistics* was identical to that used in this edition except that average daily attendance rather than fall enrollment had been used in the ratio of enrollment to population variable and sample period used began in 1959-60. The model used in *Projections of Education Statistics to 2006* was identical to the model used in the last four editions except that it contained a second measure of state and local government revenue. In earlier editions, similar models were used except the variables were not in log form.

Three alternative sets of projections for SGRNT were produced using this model. Each is based on a different set of projections for personal taxes and the rate of change in the inflation rate. The middle set of projections was produced using the values from the middle set of alternative projections. The low set of projections was produced using the values from the low set of alternative projections and the high set of projections was produced using the values from the high set of alternative projections. In the middle set of projections, personal taxes and nontax receipts increase at rates between –2.6 percent and 4.2 percent. In the low set of projections, personal taxes and nontax receipts increase at rates between –3.6 percent and 5.8 percent. In the high set of projections, personal taxes and nontax receipts increase at rates between –1.1 percent and 5.6 percent.

In the middle set of projections, revenue receipts from state sources increase at rates between –2.8 percent and 2.3 percent for the period from 2001–02 to 2010–11. In the low set of projections, they increase at rates between –3.4 percent and 2.9 percent. In the high set of projections, they increase at rates between –2.4 percent and 2.8 percent.

Elementary and Secondary Teacher Salary Model

Most studies conducted on teacher salaries, like those on current expenditures, have used cross-sectional data. Unlike current expenditures models, however, the models for teacher salaries from these existing cross-sectional studies cannot easily be reformulated for use with time-series data. One problem is that we do not have sufficient information concerning the supply of qualified teachers who are not presently teaching. Instead, the elementary and secondary salary model contains terms that measure the demand for teachers in the economy.

The elementary and secondary teacher salary model is:

$$\begin{aligned} \ln(SALRY) = b_0 + b_1\ln(CUREXP) &+ b_2\ln(ENRPOP) \\ &+ b_3\ln(ENR1/ENR2) \end{aligned}$$

where:

ln indicates the natural log;

SALRY equals the estimated average annual salary of teachers in public elementary and secondary schools in constant 1982–84 dollars;

CUREXP equals current expenditures of public elementary and secondary schools per pupil in fall enrollment in constant 1982-84 dollars;

ENRPOP equals the ratio of average daily attendance to the population;

ENR1 equals the average daily attendance lagged 1 period; and

ENR2 equals the average daily attendance lagged 2 periods.

The model was estimated using the period from 1969–70 to 1998–99. The AR1 model for correcting for autocorrelation was used as the Durbin-Watson statistic was in the inconclusive region when the model was estimated using OLS.

Due to the effects on current expenditures caused by the change in survey forms discussed above, the values for current expenditures for 1959–60 to 1987–88 were increased by 1.4 percent when the salary model was estimated. The coefficients of the salary model are different than if the unadjusted numbers for current expenditures had been used and hence the forecasts are different.

The results for this model are also shown in table A5.1. There is no literature for comparing the sizes of the coefficients. However, the direction of the impact each variable has on salaries is as expected: as the level of spending per pupil increases (higher CUREXP), more teachers can be hired, so demand for teachers increases and salaries may increase; as the number of students increases (higher ENRPOP and ENR1/ENR2), demand for teachers may increase, so salaries may increase.

The model used in the previous five editions of the *Projections of Education Statistics* was identical to that used in this edition except that average daily attendance rather than fall enrollment as the measure of enrollment and the sample period used to produce the forecast began in 1959–60 rather than 1969–70. In the seven earlier editions, similar models were used except the variables were not in log form.

As with current expenditures, three different scenarios are presented for teacher salaries. The same projections for ENRPOP and ENR are used for each alternative projection; the sole difference between the projections is in the projection for current expenditures. The middle alternative projection for salaries uses the middle alternative projection for current expenditures. The low alternative projection for salaries uses the low alternative projection for current expenditures. The high alternative projection for salaries uses the high alternative projection for current expenditures.

Current expenditures, average teacher salaries, and the number of teachers are interrelated; analysis was conducted to see whether the projections of these three time series were consistent.

The number of teachers was multiplied by the average salary and then divided by current expenditures for every school year from 1985–86 until 2010–11 (using the middle alternative projection for teachers, salaries, and current expenditures). The resulting value shows the portion of current expenditures that is spent on teacher salaries. The portion of current expenditures that goes toward teacher salaries has been in a slow downward trend, with the teacher salary share falling from 41 percent in 1985–86 to 38 percent in 1998–99. With the projected values, the portion of current expenditures that goes toward teacher salaries continues to fall slowly, falling to 31 percent in 2010–11. The results of this analysis indicate that the projections of these three time series are consistent.

Projection Accuracy

This is the thirteenth consecutive year in which *Projections of Education Statistics* has contained projections of current expenditures and teacher salaries. The actual values of current expenditures and teacher salaries can be compared with the projected values in the previous editions to examine the accuracy of the models.

The projections from the various editions of *Projections of Education Statistics* were placed in 1981–82 dollars using the Consumer Price Indices that appeared in each edition.

In the earlier editions of *Projections of Education Statistics,* average daily attendance rather than fall enrollment had been used as the measure of enrollment in the calculation of the current expenditure per pupil projection. However, projections of current expenditures per fall enrollment were presented in most of these earlier editions, and projections of fall enrollment are presented in all of these earlier editions. Hence, the projected values of both current expenditures per pupil in fall enrollment and current expenditures per pupil in average daily attendance are compared to their respective actual values.

The similar sets of independent variables have been used in the production of the current expenditure projections presented in the last eleven editions of the *Projections of Education Statistics* including this one. There have been some differences in the construction of the variables however. First, as noted, average daily attendance had been used in the previous editions rather than fall. Second, with the *Projections of Education Statistics to 1997–98*, calendar year data were used for disposable income, the population, and the Consumer Price Index. With the later editions, school year data were used. Third, there have been two revisions in the disposable income time series. Fourth, in the more recent editions, including this one, the Census Bureau's July 1 number for the population has been used. In the earlier editions, an average of the quarterly values was used. Fifth, in the more recent editions, the U.S. Bureau of the Census's population projections have been used. In the earlier editions, the population projections came from an economic consulting firm.

There has also been a change in the estimation procedure. In the more recent editions, the AR1 model for correcting for autocorrelation was used to estimate the model. In the earlier editions, ordinary least squares was used to estimate the model.

There are several commonly used statistics which can be used to evaluate projections. The values for one of these, the mean absolute percentage error (MAPE), are presented in table A2, page 97. MAPEs of expenditure projections are presented for total current expenditures, current expenditures per pupil in fall enrollment, current expenditures per pupil in average daily attendance, and teacher salaries.

To calculate the MAPEs presented in table A2, the projections of each variable were first grouped by lead time, that is: all the projections of each variable that were a given number of years from the last year in the sample period were grouped together. Next, the percent differences between each projection and its actual value were calculated. Finally, for each variable, the mean of the absolute values of the percent differences were calculated, with a separate average for each lead time. These means are the MAPEs. Hence, in table B, there are a series of MAPEs for each variable with a different MAPE for each lead time.

For some editions of the *Projections of Education Statistics*, the first projection to be listed did not have a lead time of one year. For example, in *Projections of Education Statistics to 2002*, the first projection to appear was for 1990–91. This projection was calculated using a sample period ending in 1988–89, so it had a lead time of two years. The value that appeared for 1989–1990 was from NCES *Early Estimates*. Only those projections which appeared in an edition of *Projections of Education Statistics* were used in this evaluation.

Projections for teacher salaries also appeared in the twelve most recent editions of *Projections of Education Statistics*. In these earlier editions, average daily attendance rather than fall enrollment had been used as the measure of enrollment. Also, beginning with the *Projections of Education Statistics to 2006*, there was one major change in the model used for teacher salary projections; all the variables were placed in log form. With this change in functional form, there was also a change in the way the change in enrollment was measured. In the most recent editions, the change in enrollment was measured by taking the ratio of the enrollment (previously average daily attendance) lagged one period to the enrollment lagged two periods. In the previous three editions of *Projections of Education Statistics*, the change in enrollment was measured by the change from the previous year in enrollment lagged one period. In *Projections of Education Statistics to 1997–98*, *Projections of Education Statistics to 2000*, and *Projections of Education Statistics to 2001*, both the change in average daily attendance lagged one period and the change in average daily attendance lagged two periods were included in the model.

There was another difference between the model used to produce the teacher salary projections in *Projections of Education Statistics to 1997–98* and those used in the later editions including this one: variables in the model were calculated using calendar year data for the population and the Consumer Price Index rather than school year data as in previous editions.

Sources of Past and Projected Data

Numbers from several different sources were used to produce these projections. In some instances, the time series used were made by either combining numbers from various sources or manipulating the available numbers. The sources and the methods of manipulation are described here.

The time series used for current expenditures was compiled from several different sources. For the school years ending in even numbers from 1959–60 to 1975–76, the numbers for current expenditures were taken from various issues of *Statistics of State School Systems*, published by NCES. The numbers for the school years ending in odd numbers during the 1960s were taken from various issues of the National Education Association's *Estimates of School Statistics*. For the school years ending in odd numbers during the 1970s, up to and including 1976–77, the numbers were taken from various issues of *Revenues and Expenditures for Public Elementary and Secondary Education*, published by

NCES. For the school years from 1977–78 until 1998–99, the numbers were taken from the NCES Common Core of Data survey and unpublished data.

For 1974–75 and 1976–77, expenditures for summer schools were subtracted from the published figures for current expenditures. The value for 1972–73 was the sum of current expenditures at the local level, expenditures for administration by state boards of education and state departments of education, and expenditures for administration by intermediate administrative units.

Note that although the data from the different sources are similar, they are not entirely consistent. Also, the NCES numbers beginning with 1980–81 are not entirely consistent with the earlier NCES numbers, due to differing treatments of items such as expenditures for administration by state governments and expenditures for community services.

An alternative source for current expenditures would have been the Bureau of the Census's F-33 which offers statistics at the district level. This level of detail was not needed, however.

For most years, the sources for the past values of average daily attendance were identical to the sources for current expenditures. For 1978–79, the number was taken from *Revenues and Expenditures for Public Elementary and Secondary Education.*

Projections for average daily attendance for the period from 1998–99 to 2010–11 were made by multiplying the projections for enrollment by the average value of the ratios of average daily attendance to the enrollment from 1988–89 to 1997–98; this average value was approximately 0.93.

The values for fall enrollment from 1959–60 to 1977–78 were taken from issues of the NCES publication *Statistics of Public Elementary and Secondary Schools*. The 1978–79 value was taken from the NCES Bulletin of October 23, 1979, "Selected Public and Private Elementary and Secondary Education Statistics." The values from 1979–80 to 1998–99 were taken from the NCES Common Core of Data survey. The projections for fall enrollment are those presented in Chapter 1.

For 1959–60 to 1998–99, the sources for revenue receipts from state sources were the two NCES publications *Statistics of State School Systems* and *Revenues and Expenditures for Public Elementary and Secondary Education* and the NCES Common Core of Data survey. The methods for producing the alternative projections for revenue receipts from state sources are outlined above.

The estimates for average teacher salaries were taken from various issues of the National Education Association's *Estimates of School Statistics.*

The projected values for disposable income, personal taxes and nontax receipts to state and local governments, and indirect business taxes and tax accruals to state and local governments, were developed using projections developed by DRI•WEFA's U.S. Quarterly Model. Projected values of the Bureau of Labor Statistics' Consumer Price Index for all urban consumers, which was used for adjusting current expenditures, teacher salaries, revenue receipts from state sources, and the state revenue variables, were also developed using the U.S. Quarterly Model.

Both the historical and projected values for the population were supplied by the U.S. Bureau of the Census.

The values of all the variables from DRI•WEFA were placed in school-year terms. The school-year numbers were calculated by taking the average of the last two quarters of one year and the first two quarters of the next year.

The Elementary and Secondary School Price Index was considered as a replacement for the Consumer Price Index for placing current expenditures and teacher salaries in constant dollars. As projections of the price index are required for placing the forecasts into current dollars, and as there are no projections of the Elementary and Secondary School Price Index, the Consumer Price Index was used. There are other price indexes, such as the implicit price deflator for state and local government purchases, that could have been used instead of the Consumer Price Index. These alternatives would have produced somewhat different projections.

Table A5.1.—Equations for current expenditures per pupil in fall enrollment, estimated average annual salaries of teachers, and education revenue receipts from state sources

Dependent Variable	Equation	R^2	Durbin-Watson statistic[1]	Estimation technique[2]	Rho	Time period
Current expenditures per pupil	ln(CUREXP) = - 3.39 (-4.11) + 0.669ln(PCI) (3.29) + 0.340ln(SGRANT) (2.41) - 0.330ln(ENRPOP) (-1.82)	0.993	1.70	AR1	0.69 (4.76)	1967-68 to 1998-99
Estimated average annual salaries	ln(SALRY) = 11.4 (12.0) + 0.41ln(CUREXP) (5.12) + 0.54ln(ENRPOP) (3.41) + 1.72ln(ENR1/ENR2) (3.39)	0.949	1.44	AR1	0.85 (7.88)	1969-70 to 1998-99
Education revenue receipts from state sources per capita	ln(SGRNT) = 5.1 (4.62) + 0.61ln(PERTAX1) (12.9) + 0.35ln(ENRPOP) (2.27) - 0.032ln(RCPIANN/RCPIANN1) (-2.18)	0.978	1.89	AR1	0.53 (2.93)	1967-68 to 1998-99

[1] For an explanation of the Durbin-Watson statistic, see J. Johnston, *Econometric Methods* , New York: McGraw-Hill, 1972, pages 251-252.

[2] AR1 indicates an estimation procedure for correcting the problem of first-order autocorrelation. For a general discussion of the problem of autocorrelation, and the method used to forecast in the presence of autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics*, New York: John Wiley and Sons, 1985, pages 315- 318.

Where:

CUREXP = Current expenditures of public elementary and secondary schools per pupil in fall enrollment in constant 1982-84 dollars
SALRY = Average annual salary of teachers in public elementary and secondary schools in constant 1982-84 dollars
SGRNT = Local governments' education revenue receipts from state sources, per capita, in constant 1982-84 dollars
PCI = Disposable income per capita in constant 1996 dollars
ENRPOP = Ratio of fall enrollment to the population
PERTAX1 = Personal taxes and nontax receipts to state and local governments, per capita, in constant 1982-84 dollars lagged one period
RCPIANN = Inflation rate measured by the Consumer Price Index
RCPIANN1 = Inflation rate measured by the Consumer Price Index lagged 1 period
ENR1 = Fall enrollment lagged 1 period
ENR2 = Fall enrollment lagged 2 periods

NOTE: R^2 indicates the coefficient of determination. Numbers in parentheses are t-statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Elementary and Secondary School Current Expenditures Model; Elementary and Secondary Teacher Salary Model; and Revenue Receipts from State Sources Model.

(This table was prepared June 2001.)

BEST COPY AVAILABLE

Appendix B

Supplementary Tables

Table B1.—Annual number of births (U.S. Census projections, Middle Series): 1951 to 2011

(In thousands)

Calendar Year	Number of Births
1951	3,845
1952	3,933
1953	3,989
1954	4,102
1955	4,128
1956	4,244
1957	4,332
1958	4,279
1959	4,313
1960	4,307
1961	4,317
1962	4,213
1963	4,142
1964	4,070
1965	3,801
1966	3,642
1967	3,555
1968	3,535
1969	3,626
1970	3,739
1971	3,556
1972	3,258
1973	3,137
1974	3,160
1975	3,144
1976	3,168
1977	3,327
1978	3,333
1979	3,494
1980	3,612
1981	3,629
1982	3,681
1983	3,639
1984	3,669
1985	3,761
1986	3,757
1987	3,809
1988	3,910
1989	4,041
1990	4,158
1991	4,111
1992	4,065
1993	4,000
1994	3,953
1995	3,900
1996	3,891
1997	3,881
1998	3,943
1999	3,965
	Projected
2000	3,914
2001	3,932
2002	3,953
2003	3,978
2004	4,009
2005	4,045
2006	4,086
2007	4,133
2008	4,183
2009	4,234
2010	4,283
2011	4,328

NOTE: Some data have been revised from previously published figures.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092, 1095, and "National Population Estimates for the 1990s," January 2001, and "Annual Projections of the Total Resident Population: 1999 to 2100," January 2000; and U.S. Department of Health and Human Services, National Center for Health Statistics (NCHS), Annual Summary of Births, Marriages, Divorces, and Deaths: United States, various years, *National Vital Statistics Reports;* and unpublished tabulations. (This table was prepared May 2001.)

Table B2.—Preprimary school-age populations (U.S. Census projections, Middle Series): 1986 to 2011

(In thousands)

Year (July 1)	3 years old	4 years old	5 years old	3 to 5 years old
1986	3,579	3,610	3,568	10,757
1987	3,508	3,623	3,610	10,741
1988	3,619	3,556	3,627	10,802
1989	3,646	3,669	3,559	10,874
1990	3,659	3,697	3,678	11,034
1991	3,714	3,710	3,695	11,119
1992	3,808	3,769	3,710	11,287
1993	3,965	3,867	3,773	11,605
1994	3,990	4,024	3,867	11,881
1995	3,963	4,050	4,025	12,038
1996	3,889	4,022	4,050	11,961
1997	3,838	3,948	4,025	11,811
1998	3,799	3,897	3,950	11,646
1999	3,755	3,852	3,895	11,502
		Projected		
2000	3,761	3,808	3,850	11,419
2001	3,762	3,819	3,811	11,392
2002	3,765	3,818	3,820	11,403
2003	3,775	3,821	3,820	11,416
2004	3,788	3,830	3,821	11,439
2005	3,806	3,845	3,831	11,482
2006	3,827	3,862	3,845	11,534
2007	3,852	3,884	3,862	11,598
2008	3,883	3,909	3,883	11,675
2009	3,919	3,940	3,908	11,767
2010	3,961	3,975	3,939	11,875
2011	4,006	4,017	3,974	11,997

NOTE: Some data have been revised from previously published figures. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092, 1095, and "National Population Estimates," June 1999, and "Annual Projections of the Total Resident Population: 1999 to 2100," January 2000. (This table was prepared June 2001.)

Table B3.—School-age populations (U.S. Census projections, Middle Series), ages 5, 6, 5 to 13, and 14 to 17 years: 1986 to 2011

(In thousands)

Year (July 1)	5 years old	6 years old	5 to 13 years old	14 to 17 years old
1986	3,568	3,518	30,078	14,825
1987	3,610	3,568	30,501	14,503
1988	3,627	3,611	31,030	14,023
1989	3,559	3,625	31,412	13,535
1990	3,678	3,561	32,002	13,322
1991	3,695	3,674	32,469	13,451
1992	3,710	3,694	32,943	13,702
1993	3,773	3,712	33,382	13,990
1994	3,867	3,771	33,712	14,491
1995	4,025	3,865	34,196	14,827
1996	4,050	4,020	34,604	15,212
1997	4,025	4,048	35,004	15,500
1998	3,950	4,022	35,397	15,519
1999	3,895	3,944	35,605	15,653
		Projected		
2000	3,850	3,889	35,751	15,725
2001	3,811	3,851	35,885	15,821
2002	3,820	3,809	35,941	16,047
2003	3,820	3,818	35,904	16,247
2004	3,821	3,817	35,697	16,580
2005	3,831	3,819	35,473	16,931
2006	3,845	3,828	35,281	17,188
2007	3,862	3,841	35,186	17,268
2008	3,883	3,858	35,164	17,132
2009	3,908	3,879	35,207	16,915
2010	3,939	3,904	35,322	16,681
2011	3,974	3,933	35,463	16,536

NOTE: Some data have been revised from previously published figures.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports* , Series P-25, Nos. 1092, 1095, and "National Population Estimates," June 1999, and "Annual Projections of the Total Resident Population: 1999 to 2100," January 2000. (This table was prepared June 2001.)

Table B4.—College-age populations (U.S. Census projections, Middle Series), ages 18, 18 to 24, 25 to 29, 30 to 34, and 35 to 44 years: 1986 to 2011

(In thousands)

Year (July 1)	18 years old	18 to 24 years old	25 to 29 years old	30 to 34 years old	35 to 44 years old
1986	3,623	28,468	22,018	20,552	33,081
1987	3,704	27,931	21,982	21,058	34,299
1988	3,803	27,584	21,869	21,470	35,258
1989	3,888	27,378	21,690	21,759	36,494
1990	3,607	27,044	21,361	21,996	37,859
1991	3,397	26,566	20,834	22,243	39,375
1992	3,332	26,123	20,229	22,311	39,975
1993	3,422	25,867	19,647	22,289	40,877
1994	3,383	25,513	19,175	22,191	41,752
1995	3,543	25,214	18,967	21,879	42,610
1996	3,580	24,943	18,995	21,364	43,418
1997	3,695	25,076	18,880	20,787	44,068
1998	3,882	25,572	18,635	20,214	44,552
1999	3,878	26,106	18,266	19,770	44,865
			Projected		
2000	3,962	26,631	17,871	19,588	44,915
2001	3,971	27,282	17,482	19,683	44,746
2002	3,901	27,643	17,444	19,580	44,277
2003	4,022	28,077	17,622	19,360	43,718
2004	4,042	28,416	17,974	19,011	43,221
2005	4,058	28,593	18,409	18,627	42,769
2006	4,117	28,817	18,875	18,175	42,337
2007	4,211	29,054	19,265	18,124	41,652
2008	4,369	29,441	19,618	18,292	40,859
2009	4,395	29,926	19,801	18,625	40,065
2010	4,363	30,256	19,907	19,046	39,495
2011	4,280	30,478	20,040	19,497	39,088

NOTE: Some data have been revised from previously published figures.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092, 1095, and "National Population Estimates," June 1999, and "Annual Projections of the Total Resident Population: 1999 to 2100," January 2000. (This table was prepared June 2001.)

Table B5.—Fall enrollment in public elementary and secondary schools, change in fall enrollment, the population, and fall enrollment as a proportion of the population: 1985-86 to 2010-11

(In thousands)

Year ending	Fall enrollment (in thousands)	Change in fall enrollment (in thousands)	Population (in millions)	Fall enrollment as a ratio of the population
1986	39,422	214	238.5	0.165
1987	39,753	331	240.7	0.165
1988	40,008	255	242.8	0.165
1989	40,188	180	245.0	0.164
1990	40,543	355	247.3	0.164
1991	41,217	674	250.0	0.165
1992	42,047	830	252.7	0.166
1993	42,823	776	255.4	0.168
1994	43,465	642	258.1	0.168
1995	44,111	646	260.6	0.169
1996	44,840	729	263.1	0.170
1997	45,611	771	265.5	0.172
1998	46,127	516	268.0	0.172
1999	46,539	412	270.5	0.172
		Projected		
2000	46,857	318	272.9	0.172
2001	47,051	194	275.4	0.171
2002	47,213	162	278.1	0.170
2003	47,358	145	280.6	0.169
2004	47,432	74	283.1	0.168
2005	47,494	62	285.5	0.166
2006	47,536	42	288.0	0.165
2007	47,515	-21	290.4	0.164
2008	47,430	-85	292.8	0.162
2009	47,286	-144	295.3	0.160
2010	47,178	-109	297.7	0.158
2011	47,131	-47	300.1	0.157

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Reports, Series P-25, Nos. 1092, 1095, and "National Population Estimates," June 1999, and "Annual Projections of the Total Resident Population: 1999 to 2100," January 2000; U.S. Department of Education, National Center for Education Statistics, Statistics of State Schools Systems; Common Core of Data survey; and Elementary and Secondary Enrollment Model.

(This table was prepared June 2001.)

Table B6.—Macro-economic measures of the economy, with alternative projections: Fiscal year 1985–86 to 2010–11

Year ending	Disposable income per capita[1]	Education revenue receipts from state source per capita[2]	Consumer Price Index	Rate of change for the inflation rate
1986	$19,657	$480	0.643	-0.259
1987	19,934	498	0.657	-0.231
1988	20,480	505	0.684	0.859
1989	21,057	523	0.716	0.100
1990	21,301	530	0.750	0.046
1991	21,291	533	0.791	0.148
1992	21,431	527	0.816	-0.419
1993	21,694	527	0.842	-0.023
1994	21,872	527	0.864	-0.158
1995	22,331	552	0.889	0.087
1996	22,592	569	0.913	-0.041
1997	23,015	587	0.939	0.038
1998	23,732	615	0.956	-0.369
1999	24,473	644	0.972	-0.049
		Middle alternative projections		
2000	24,979	659	1.000	0.696
2001	25,425	674	1.031	0.057
2002	26,098	690	1.051	-0.343
2003	27,087	670	1.068	-0.191
2004	28,086	679	1.087	0.056
2005	28,910	689	1.107	0.113
2006	29,640	694	1.132	0.186
2007	30,399	706	1.161	0.134
2008	31,127	707	1.193	0.073
2009	31,847	709	1.228	0.052
2010	32,571	720	1.265	0.052
2011	33,299	734	1.306	0.052
		Low alternative projections		
2000	24,979	659	1.000	0.696
2001	25,393	674	1.030	0.054
2002	25,820	691	1.051	-0.350
2003	26,576	667	1.068	-0.189
2004	27,311	680	1.087	0.114
2005	27,948	700	1.108	0.102
2006	28,595	704	1.133	0.151
2007	29,357	703	1.163	0.169
2008	30,057	694	1.198	0.113
2009	30,688	691	1.235	0.067
2010	31,308	700	1.276	0.038
2011	31,920	712	1.320	0.066
		High alternative projections		
2000	24,979	659	1.000	0.696
2001	25,755	674	1.030	0.051
2002	27,093	690	1.051	-0.328
2003	28,071	674	1.072	-0.022
2004	28,939	692	1.094	0.032
2005	29,719	701	1.117	-0.018
2006	30,493	701	1.140	0.054
2007	31,350	715	1.165	0.020
2008	32,195	718	1.190	-0.007
2009	33,085	720	1.217	0.041
2010	34,066	732	1.247	0.091
2011	35,068	749	1.279	0.041

[1] In 1999–2000 dollars based on the price deflator for personal consumption expenditures, Bureau of Labor Statistics, U.S. Department of Labor.

[2] In 1999–2000 dollars based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Statistics of State School Systems; Common Core of Data survey; Early Estimates survey; and Revenue Receipts from State Sources Model; DRI•WEFA, "U.S. Quarterly Model," and National Education Association, *Estimates School Statistics*. (Latest edition 2001. Copyright 2001 by the National Education Association. All rights reserved.) (This table was prepared June 2001.)

Table B7.—Measures of state and local government revenues, with alternative projections: Fiscal year 1985–86 to 2010–11

Year ending	Personal tax and nontax payments per capita[*]	Indirect business taxes and tax accruals per capita[*]	Tax and nontax payments per capita[*]
1986	$616	$1,121	$1,737
1987	664	1,139	1,803
1988	663	1,154	1,817
1989	691	1,158	1,849
1990	711	1,162	1,873
1991	711	1,144	1,854
1992	733	1,157	1,890
1993	745	1,185	1,930
1994	762	1,229	1,991
1995	780	1,256	2,036
1996	802	1,274	2,077
1997	833	1,292	2,125
1998	882	1,332	2,214
1999	923	1,388	2,311
		Middle alternative projections	
2000	957	1,459	2,415
2001	982	1,510	2,492
2002	957	1,581	2,537
2003	997	1,661	2,658
2004	1,030	1,745	2,775
2005	1,053	1,815	2,867
2006	1,085	1,871	2,956
2007	1,092	1,914	3,006
2008	1,102	1,945	3,047
2009	1,138	1,975	3,113
2010	1,180	2,015	3,195
2011	1,222	2,059	3,281
		Low alternative projections	
2000	957	1,459	2,415
2001	984	1,509	2,493
2002	949	1,566	2,515
2003	1,004	1,631	2,635
2004	1,057	1,696	2,753
2005	1,076	1,747	2,823
2006	1,080	1,789	2,869
2007	1,061	1,821	2,882
2008	1,058	1,840	2,897
2009	1,085	1,854	2,938
2010	1,123	1,880	3,003
2011	1,166	1,911	3,077
		High alternative projections	
2000	957	1,459	2,415
2001	984	1,517	2,502
2002	974	1,621	2,595
2003	1,029	1,715	2,744
2004	1,053	1,801	2,854
2005	1,063	1,876	2,939
2006	1,101	1,939	3,040
2007	1,114	1,993	3,106
2008	1,129	2,038	3,167
2009	1,171	2,085	3,255
2010	1,219	2,135	3,354
2011	1,265	2,184	3,449

[*] In 1999–2000 dollars based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures.

SOURCE: DRI•WEFA, "U.S. Quarterly Model" (This table was prepared June 2001.)

BEST COPY AVAILABLE

Appendix C

Data Sources

Sources and Comparability of Data

The information in this report was obtained from many sources, including federal and state agencies, private research organizations, and professional associations. The data were collected by many methods, including surveys of a universe (such as all colleges) or of a sample, and compilations of administrative records. Care should be used when comparing data from different sources. Differences in procedures, such as timing, phrasing of questions, and interviewer training mean that the results from the different sources are not strictly comparable. More extensive documentation of one survey's procedures than of another's does not imply more problems with the data, only that more information is available.

Accuracy of Data

The accuracy of any statistic is determined by the joint effects of "sampling" and "nonsampling" errors. Estimates based on a sample will differ from the figures that would have been obtained if a complete census had been taken using the same survey instruments, instructions, and procedures. Besides sampling errors, both surveys, universe and sample, are subject to errors of design, reporting, processing, and errors due to nonresponse. To the extent possible, these nonsampling errors are kept to a minimum by methods built into the survey procedures. In general, however, the effects of nonsampling errors are more difficult to gauge than those produced by sampling variability.

Sampling Errors

The standard error is the primary measure of sampling variability. It provides a specific range—with a stated confidence—within which a given estimate would lie if a complete census had been conducted. The chances that a complete census would differ from the sample by less than the standard error are about 68 out of 100. The chances that the difference would be less than 1.65 times the standard error are about 90 out of 100. The chances that the difference would be less than 1.96 times the standard error are about 95 out of 100. The chances that it would be less than 2.58 times as large are about 99 out of 100.

The standard error can help assess how valid a comparison between two estimates might be. The standard error of a difference between two sample estimates that are uncorrelated is approximately equal to the square root of the sum of the squared standard errors of the estimates. The standard error (se) of the difference between sample estimate "a" and sample estimate "b" is:

$$se_{a-b} = (se_a^2 + se_b^2)^{1/2}$$

Note that most of the standard errors in subsequent sections and in the original documents are approximations. That is, to derive estimates of standard errors that would be applicable to a wide variety of items and could be prepared at a moderate cost, a number of approximations were required. As a result, most of the standard errors presented provide a general order of magnitude rather than the exact standard error for any specific item.

Nonsampling Errors

Both universe and sample surveys are subject to nonsampling errors. Nonsampling errors are of two kinds—random and nonrandom. Random nonsampling errors may arise when respondents or interviewers interpret questions differently, when respondents must estimate values, or when coders, keyers, and other processors handle answers differently. Nonrandom nonsampling errors result from total nonresponse (no usable data obtained for a sampled unit), partial or item nonresponse (only a portion of a response may be usable), inability or unwillingness on the part of respondents to provide information, difficulty interpreting questions, mistakes in recording or keying data, errors of collection or processing, and overcoverage or undercoverage of the target universe. Random nonresponse errors usually, but not always, result in an understatement of sampling errors and thus an overstatement of the precision of survey estimates. Because estimating the magnitude of nonsampling errors would require special experiments or access to independent data, these magnitudes are seldom available.

To compensate for suspected nonrandom errors, adjustments of the sample estimates are often made. For example, adjustments are frequently made for nonresponse, both total and partial. Imputations are usually made separately within various groups of sample members that have similar survey characteristics. Imputation for item nonresponse is an acceptable value which is substituted for missing or inconsistent data in a data set.

Although the magnitude of nonsampling errors in the data used in this *Projections of Education Statistics* is frequently unknown, idiosyncrasies that have been identified are noted on the appropriate tables.

Federal Agency Sources

National Center for Education Statistics (NCES)

Common Core of Data

NCES uses the Common Core of Data (CCD) survey to acquire and maintain statistical data from each of the 50 states, the District of Columbia, the Bureau of Indian Affairs, Department of Defense Dependents' Schools (overseas) and the outlying areas. Information about staff and students is collected annually at the school, local education agency or school district (LEA), and state levels. Information about revenues and expenditures is also collected at the state and LEA levels.

Data are collected for a particular school year (October 1 through September 30) via survey instruments sent to the state education agencies during the school year. States have 1 year in which to modify the data originally submitted.

Since the CCD is a universe survey, the CCD information presented in this edition of the *Projections of Education Statistics* is not subject to sampling errors. However, nonsampling errors could come from two sources—nonreturn and inaccurate reporting. Almost all of the states submit the six CCD survey instruments each year, but submissions are sometimes incomplete or too late for publication.

Understandably, when 58 education agencies compile and submit data for approximately 90,000 public schools and 16,000 local school districts, misreporting can occur. Typically, this results from varying interpretations of NCES definitions and differing recordkeeping systems. NCES attempts to minimize these errors by working closely with the state education agencies through the National Forum on Education Statistics.

The state education agencies report data to NCES from data collected and edited in their regular reporting cycles. NCES encourages the agencies to incorporate into their own survey systems the NCES items they do not already collect so that those items will also be available for the subsequent CCD survey. Over time, this has meant fewer missing data cells in each state's response, reducing the need to impute data.

NCES subjects data from the education agencies to a comprehensive edit. Where data are determined to be inconsistent, missing, or out of range, NCES contacts the education agencies for verification. NCES-prepared state summary forms are returned to the state education agencies for verification. States are also given an opportunity to revise their state-level aggregates from the previous survey cycle.

Further information on CCD may be obtained from:

John Sietsema
Elementary/Secondary Cooperative System and Institutional Studies Division (ESCSISD)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
John.Sietsema@ed.gov
http://nces.ed.gov/ccd/

Private School Universe Survey

The purposes of Private School Survey (PSS) data collection activities are to build an accurate and complete list of private schools to serve as a sampling frame for NCES sample surveys of private schools; and to report data on the total number of private schools, teachers, and students in the survey universe. The PSS is conducted every 2 years, with collections in 1989–90, 1991–92, 1993–94, 1995–96, 1997–98, and 1999–2000 school years. The next survey will be in the 2001–02 school year.

The PSS produces data similar to that of the CCD for the public schools, and can be used for public-private comparisons. The data are useful for a variety of policy and research-relevant issues, such as the growth of religiously affiliated schools, the number of private high school graduates, the length of the school year for various private schools, and the number of private school students and teachers.

The target population for the universe survey consists of all private schools in the United States that meet NCES criteria of a school (e.g., private school is an institution which provides instruction for any of grades K through 12, has one or more teachers to give instruction, is not administered by a public agency, and is not operated in a private home). The survey universe is composed of schools identified from a variety of sources. The main source is a list frame, initially developed for the 1989–90 PSS. The list is updated regularly, matching it with lists provided by nationwide private school associations, state departments of education, and other national guides and sources which list private schools. The other source is an area frame search in approximately 120 geographic areas, conducted by the Bureau of the Census.

Further information on PSS may be obtained from:

Steve Broughman
Elementary/Secondary and Libraries Studies Division
Elementary/Secondary Sample Survey Studies Program
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Stephen.broughman@ed.gov
http://nces.ed.gov/surveys/pss/

Integrated Postsecondary Education Data System

The Integrated Postsecondary Education Data System (IPEDS) surveys approximately 10,000 postsecondary institutions, including universities and colleges, as well as institutions offering technical and vocational education beyond the high school level. This survey, which began in 1986, replaced the Higher Education General Information Survey (HEGIS).

IPEDS consists of several integrated components that obtain information on who provides postsecondary education (institutions), who participates in it and completes it (students), what programs are offered and what programs are completed, and both the human and financial resources involved in the provision of institutionally based postsecondary education. Specifically, these components include: Institutional Characteristics, including instructional activity; Fall Enrollment, including age and residence; Completions; Finance; Staff; Salaries of Full-Time Instructional Faculty; and Graduation Rate.

The degree-granting institutions portion of this survey is a census of colleges awarding associate's or higher degrees and that were eligible to participate in Title IV financial aid programs. Prior to 1993, data from the technical and vocational institutions were collected through a sample survey. Beginning in 1993, all data are gathered in a census of all postsecondary institutions. The tabulations on "Institutional Characteristics" developed for this edition of the *Projections of Education Statistics* are based on lists of all institutions and are not subject to sampling errors.

The definition of institutions generally thought of as offering college and university education has been changed in recent years. The old standard for higher education institutions included those institutions that had courses that led to an associate degree or higher, or were accepted for credit towards those degrees. The higher education institutions were accredited by an agency or association that was recognized by the U.S. Department of Education or recognized directly by the Secretary of Education. The current category includes institutions which award associate or higher level degrees that are eligible to participate in Title IV federal financial aid programs. Tables that contain any data according to this standard are titled as "degree-granting" institutions. The impact of this change has generally not been large. For example, tables on faculty salaries and benefits were only affected to a very small extent. Also, degrees awarded at the bachelor's level or higher were not heavily affected. Most of the data on public 4-year colleges has been affected only to a minimal extent. The impact on enrollment in public 2-year colleges was noticeable in certain states, but relatively small at the national level. The largest impact has been on private 2-year college enrollment. Overall, enrollment for all institutions was about one-half a percent higher for degree-granting institutions compared to the total for higher education institutions.

Prior to the establishment of IPEDS in 1986, HEGIS acquired and maintained statistical data on the characteristics and operations of institutions of higher education. Implemented in 1966, HEGIS was an annual universe survey of institutions accredited at the college level by an agency recognized by the Secretary of the U.S. Department of Education. These institutions were listed in NCES' *Education Directory, Colleges and Universities*.

HEGIS surveys solicited information concerning institutional characteristics, faculty salaries, finances, enrollment, and degrees. Since these surveys were distributed to all higher education institutions, the data presented are not subject to sampling error. However, they are subject to nonsampling error, the sources of which varied with the survey instrument. Information concerning the nonsampling error of the enrollment and degrees surveys draws extensively on the *HEGIS Post-Survey Validation Study* conducted in 1979.

Further information on IPEDS may be obtained from:

Susan Broyles
Postsecondary Institutional Studies Division (PSD)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Susan.Broyles@ed.gov
http://nces.ed.gov/ipeds/

Institutional Characteristics This survey provides the basis for the universe of institutions presented in the *Directory of Postsecondary Institutions*. The survey collects basic information necessary to classify the institutions, including control, level, and kinds of programs; information on tuition, fees, and room and board charges; and unduplicated full-year enrollment counts and instructional activity. The overall response rate was 96.6 percent for 1998.

Further information may be obtained from:

Patricia Brown
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Patricia.Brown@ed.gov
http://nces.ed.gov/ipeds/

Fall Enrollment This survey has been part of the HEGIS and IPEDS series since 1966. The enrollment survey response rate is relatively high. The 1998 overall response rate was 91.8 percent for degree-granting institutions. Major sources of nonsampling error for this survey as identified in the 1979 report were classification problems, the unavailability of needed data, interpretation of definitions, the survey due date, and operational errors. Of these, the classification of students appears to have been the main source of error. Institutions had problems in correctly classifying first-time freshmen and other first-time students for both full-time and part-time categories. These problems occurred most often at 2-year institutions (private and public) and private 4-year institutions. In the 1977–78 HEGIS validation studies, the classification problem led to an estimated overcount of 11,000 full-time students and an undercount of 19,000 part-time students. Although the ratio of error to the grand total was quite small (less than 1 percent), the percentage of errors was as high as 5 percent for detailed student levels and even higher at certain aggregation levels.

Beginning in fall 1986, the survey system was redesigned with the introduction of IPEDS (see above). The survey allows (in alternating years) for the collection of age and residence data.

Further information may be obtained from:

Frank Morgan
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Frank.Morgan@ed.gov
http://nces.ed.gov/ipeds/

Completions This survey was part of the HEGIS series throughout its existence. However, the degree classification taxonomy was revised in 1970–71, 1982–83, and 1991–92. Collection of degree data has been maintained through the IPEDS system.

Though information from survey years 1970–71 through 1981–82 is directly comparable, care must be taken if information before or after that period is included in any comparison. The "Degrees-conferred" trend tables arranged by the 1991–92 classification are included in the *Projections of Education Statistics* to provide consistent data from 1970–71 to the most recent year. Data in this edition on associate and other formal awards below the baccalaureate, by field of study, cannot be made comparable with figures prior to 1982–83. The nonresponse rate did not appear to be a significant source of nonsampling error for this survey. The return rate over the years has been high, with the degree-granting institutions response rate for the 1997–98 survey at 92.3 percent. Because of the high return rate for degree-granting institutions, nonsampling error caused by imputation is also minimal. The overall response rate that includes the non-degree granting institutions was 73.8 percent in 1997–98.

The major sources of nonsampling error for this survey were differences between the NCES program taxonomy and taxonomies used by the colleges, classification of double majors, operational problems, and survey timing. In the 1979 HEGIS validation study, these sources of nonsampling contributed to an error rate of 0.3 percent overreporting of bachelor's degrees and 1.3 percent overreporting of master's degrees. The differences, however, varied greatly among fields. Over 50 percent of the fields selected for the validation study had no errors identified. Categories of fields that had large differences were business and management, education, engineering, letters, and psychology. It was also shown that differences in proportion to the published figures were less than 1 percent for most of the selected fields that had some errors. Exceptions to these were: master's and Ph.D. programs in labor and industrial relations (20 percent and 8 percent); bachelor's and master's programs in art education (3 percent and 4 percent); bachelor's and Ph.D. programs in business and commerce, and in distributive education (5 percent and 9 percent); master's programs in philosophy (8 percent); and Ph.D. programs in psychology (11 percent).

Further information on IPEDS Completions surveys may be obtained from:

Frank Morgan
Postsecondary Studies Division (PSD)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Frank.Morgan@ed.gov
http://nces.ed.gov/ipeds/

Financial Statistics This survey was part of the HEGIS series and has been continued under the IPEDS system. Changes were made in the financial survey instruments in fiscal years (FY) 1976, 1982, and 1987. The FY 76 survey instrument contained numerous revisions to earlier survey forms and made direct comparisons of line items very difficult. Beginning in FY 82, Pell Grant data were collected in the categories of federal restricted grants and contracts revenues and restricted scholarships and fellowships expenditures. The introduction of IPEDS in the FY 87 survey included several important changes to the survey instrument and data processing procedures. While these changes were significant, considerable effort has been made to present only comparable information on trends in this report and to note inconsistencies. Finance tables for this publication have been adjusted by subtracting the largely duplicative Pell Grant amounts from the later data to maintain comparability with pre-FY 82 data.

Possible sources of nonsampling error in the financial statistics include nonresponse, imputation, and misclassification. The response rate has been about 85 to 90 percent for most of the years reported. The response rate for the FY 97 survey was 95.1 percent for degree-granting institutions.

Two general methods of imputation were used in HEGIS. If the prior year's data were available for a nonresponding institution, these data were inflated using the Higher Education Price Index and adjusted according to changes in enrollments. If no previous year's data were available, current data were used from peer institutions selected for location (state or region), control, level, and enrollment size of institution. In most cases estimates for nonreporting institutions in IPEDS were made using data from peer institutions.

Beginning with FY 87, the IPEDS survey system included all postsecondary institutions, but maintained comparability with earlier surveys by allowing 2- and 4-year institutions to be tabulated separately. For FY 87 through FY 91, in order to maintain comparability with the historical time series of HEGIS institutions, data were combined from two of the three different survey forms that make up the IPEDS survey system. The vast majority of the data were tabulated from Form 1, which was used to collect information from public and private nonprofit 2- and 4-year colleges. Form 2, a condensed form, was used to gather data for the 2-year proprietary institutions. Because of the differences in the data requested on the two forms, several assumptions were made about the Form 2 reports so that their figures could be included in the institutions of higher education totals.

In IPEDS, the Form 2 institutions were not asked to separate appropriations from grants and contracts, nor state from local sources of funding. For the Form 2 institutions, all the federal revenues were assumed to be federal grants and contracts and all of the state and local revenues were assumed to be restricted state grants and contracts. All other Form 2 sources of revenue, except for tuition and fees and sales and services of educational activities, were included under "other." Similar adjustments were made to the expenditure accounts. The Form 2 institutions reported instruction and scholarship and fellowship expenditures only. All other educational and general expenditures were allocated to academic support.

To reduce reporting error, NCES uses national standards for reporting finance statistics. These standards are contained in *College and University Business Administration: Administrative Services (1974 Edition)*, and the *Financial Accounting and Reporting Manual for Higher Education (1990 Education)*, published by the National Association of College and University Business Officers; *Audits of Colleges and Universities* (as amended August 31, 1974), by the American Institute of Certified Public Accountants; and *HEGIS Financial Reporting Guide (1980)*, by NCES. Wherever possible, definitions and formats in the survey form are consistent with those in these four accounting texts.

Further information on IPEDS Financial Statistics surveys may be obtained from:

Postsecondary Institutional Studies Program (PSD)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
http://nces.ed.gov/ipeds/

Bureau of the Census

Current Population Survey

Current estimates of school enrollment rates, as well as social and economic characteristics of students, are based on data collected in the Census Bureau's monthly household survey of about 50,000 dwelling units. The monthly Current Population Survey (CPS) sample consists of 729 areas comprising 1,973 counties, independent cities, and minor civil divisions throughout the 50 states and the District of Columbia. The samples are initially selected based on the decennial census files and are periodically updated to reflect new housing construction.

The monthly CPS deals primarily with labor force data for the civilian noninstitutional population (i.e., excluding military personnel and their families living on post and inmates of institutions). In addition, in October of each year, supplemental questions are asked about highest grade completed, level and grade of current enrollment, attendance status, number and type of courses, degree or certificate objective, and type of organization offering instruction for each member of the household. In March of each year, supplemental questions on income are asked. The responses to these questions are combined with answers to two questions on educational attainment: highest grade of school ever attended, and whether that grade was completed.

The estimation procedure employed for monthly CPS data involves inflating weighted sample results to independent estimates of characteristics of the civilian noninstitutional population in the United States by age, sex, and race. These independent estimates are based on statistics from decennial censuses; statistics on births, deaths, immigration, and emigration; and statistics on the population in the armed services. Generalized standard error tables are provided in the *Current Population Reports*. The data are subject to both nonsampling and sampling errors.

Further information on CPS may be obtained from:

Education and Social Stratification Branch
Population Division
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233
http://www.bls.census.gov/cps/cpsmain.htm

School Enrollment Each October, the Current Population Survey (CPS) includes supplemental questions on the enrollment status of the population 3 years old and over, in addition to the monthly basic survey on labor force participation. The main sources of nonsampling variability in the responses to the supplement are those inherent in the survey instrument. The question of current enrollment may not be answered accurately for various reasons. Some respondents may not know current grade information for every student in the household, a problem especially for households with members in college or in nursery school. Confusion over college credits or hours taken by a student may make it difficult to determine the year in which the student is enrolled. Problems may occur with the definition of nursery school (a group or class organized to provide educational experiences for children), where respondents' interpretations of "educational experiences" vary.

The 1997 CPS sample was selected from the 1990 Decennial Census files with coverage in all 50 states and the District of Columbia. The sample is continually updated to account for new residential construction. The United States was divided into 2,007 geographic areas. In most states, a geographic area consists of a county or several contiguous counties. In some areas of New England and Hawaii, minor civil divisions are used instead of counties. A total of 754 geographic areas were selected for the sample. About 50,000 occupied households are eligible for interview every month. Interviewers are unable to obtain interviews at about 3,200 of these units. This occurs when the occupants are not found at home after repeated calls or are unavailable for some other reason. For the October 1997 basic CPS, the nonresponse rate was 6.3 percent and for the school enrollment supplement the nonresponse rate was an additional 4.7 percent for a total school supplement nonresponse rate of 10.7 percent.

Further information on CPS methodology may be obtained from:
http://www.bls.census.gov/cps/cpsmain.htm

Further information on CPS "School Enrollment" may be obtained from:

Education and Social Stratification Branch
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233
http://www.census.gov/population/www/socdemo/school.html

State population projections. These state population projections were prepared using a cohort-component method by which each component of population change—births, deaths, state-to-state migration flows, international in-migration, and international out-migration—was projected separately for each birth cohort by sex, race, and Hispanic origin. The basic framework was the same as in past Census Bureau projections.

Detailed components necessary to create the projections were obtained from vital statistics, administrative records, census data, and national projections.

The cohort-component method is based on the traditional demographic accounting system:

$$P_1 = P_0 + B - D + DIM - DOM + IIM - IOM$$

where:

P_1 = population at the end of the period

P_0 = population at the beginning of the period

B = births during the period

D = deaths during the period

DIM = domestic in-migration during the period

DOM = domestic out-migration during the period

IIM = international in-migration during the period

IOM = international out-migration during the period

To generate population projections with this model, the Census Bureau created separate data sets for each of these components. In general, the assumptions concerning the future levels of fertility, mortality, and international migration are consistent with the assumptions developed for the national population projections of the Census Bureau.

Once the data for each component were developed, it was a relatively straightforward process to apply the cohort-component method and produce the projections. For each projection year the base population for each state was disaggregated into eight race and Hispanic categories (non-Hispanic white; non-Hispanic black; non-Hispanic American Indian, Eskimo, and Aleut; non-Hispanic Asian and Pacific Islander; Hispanic white; Hispanic black; Hispanic American Indian, Eskimo, and Aleut; and Hispanic Asian and Pacific Islander), by sex, and single year of age (ages 0 to 85+). The next step was to survive each age-sex-race-ethnic group forward 1 year using the pertinent survival rate. The internal redistribution of the population was accomplished by applying the appropriate state-to-state migration rates to the survived population in each state. The projected out-migrants were subtracted from the state of origin and added to the state of destination (as in-migrants). Next, the appropriate number of immigrants from abroad were added to each group. The populations under age 1 were created by applying the appropriate age-race-ethnic-specific birth rates to females of childbearing age. The number of births by sex and race/ethnicity were survived forward and exposed to the appropriate migration rate to yield the population under age 1. The final results of the projection process were adjusted to be consistent with the national population projections by single years of age, sex, race, and Hispanic origin. The entire process was then repeated for each year of the projection.

More information is available in the Census Bureau Population Paper Listing 47 (PPL-47) and Current Population Report P25-1130. These reports may be obtained from:

Statistical Information Staff
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233
(301) 457-2422
INTERNET: http://www.census.gov

National population projections. The method used to produce projections of the United States population for future reference dates from a current base population reflects three fundamental principles. First, the projections are demographic. Future populations are derived from a base population through the projection of population change by its major demographic components, births, deaths, and migration. Second, the projection of the demographic components of change is driven by the composition of the population by age, sex, race, Hispanic origin, and nativity, and the way these variables determine the propensity to bear children, die, migrate to or from the United States. Third, the definition of the population with respect to who is included and the characteristics of included people remains the same throughout the projection period. We refer to these definitions collectively throughout the work as the "population universe." This concept embraces such issues as the inclusion or exclusion of people uncounted by a census, the rule defining residency in the United States, and the way we classify people by age, race, and Hispanic origin.

For more information, see "Methodology and Assumptions for the Population Projections of the United States: 1999 to 2100," Population Division Working Paper No. 38. This report is available on the

INTERNET at http://www.census.gov.

Other Sources

National Education Association

Estimates of School Statistics

The National Education Association (NEA) reports teacher, revenue, and expenditure data in its annual publication, *Estimates of School Statistics*. Each year, NEA prepares regression-based estimates of financial and other education statistics and submits them to the states for verification. Generally, about 30 states adjust these estimates based on their own data. These preliminary data are published by NEA along with revised data from previous years. States are asked to revise previously submitted data as final figures become available. The most recent publication contains all changes reported to the NEA.

Additional information is available from:

National Education Association—Research
1201 16th Street NW
Washington, DC 20036
http://www.nea.org

DRI•WEFA, Inc.

DRI•WEFA, Inc. provides an information system that includes more than 125 databases: simulation and planning models; regular publications and special studies; data retrieval and management systems; and access to experts on economic, financial, industrial, and market activities. One service is the DRI U.S. Annual Model Forecast Data Bank, which contains annual projections of the U.S. economic and financial conditions, including forecasts for the federal government, incomes, population, prices and wages, and state and local government, over a long-term (10 to 25-year) forecast period.

Additional information is available from:

DRI•WEFA, Inc.
24 Hartwell Avenue
Lexington, MA 02421-3158

Appendix D

Glossary

Data Terms

Associate's degree: A degree granted for the successful completion of a subbaccalaureate program of studies, usually requiring at least 2 years (or the equivalent) of full-time college-level study. This term includes degrees granted in a cooperative or work-study program.

Average daily attendance (ADA): The aggregate attendance of a school during a reporting period (normally a school year) divided by the number of days school is in session during this period. Only days on which the pupils are under the guidance and direction of teachers should be considered days in session.

Average daily membership (ADM): The aggregate membership of a school during a reporting period (normally a school year) divided by the number of days school is in session during this period. Only days on which the pupils are under the guidance and direction of teachers should be considered as days in session. The average daily membership for groups of schools having varying lengths of terms is the average of the average daily memberships obtained for the individual schools.

Bachelor's degree: A degree granted for the successful completion of a baccalaureate program of studies, usually requiring at least 4 years (or the equivalent) of full-time college-level study. This term includes degrees granted in a cooperative or work-study program.

Classroom teacher: A staff member assigned the professional activities of instructing pupils in self-contained classes or courses, or in classroom situations. Usually expressed in full-time equivalents.

Cohort: A group of individuals that have a statistical factor in common, for example, year of birth.

College: A postsecondary school that offers a general or liberal arts education, usually leading to an associate, bachelor's, master's, doctor's, or first-professional degree. Junior colleges and community colleges are included in this term.

Constant dollars: Dollar amounts that have been adjusted by means of price and cost indexes to eliminate inflationary factors and allow direct comparison across years.

Consumer Price Index (CPI): This price index measures the average change in the cost of a fixed market basket of goods and services purchased by consumers.

Current dollars: Dollar amounts that have not been adjusted to compensate for inflation.

Current expenditures (elementary/secondary): The expenditures for operating local public schools, excluding capital outlay and interest on school debt. These expenditures include such items as salaries for school personnel, fixed charges, student transportation, school books and materials, and energy costs.

Current expenditures per pupil in average daily attendance: Current expenditures for the regular school term divided by the average daily attendance of full-time pupils (or full-time-equivalency of pupils) during the term. See also *current expenditures* and *average daily attendance*.

Current-fund expenditures (higher education): Money spent to meet current operating costs, including salaries, wages, utilities, student services, public services, research libraries, scholarships and fellowships, auxiliary enterprises, hospitals, and independent operations. Excludes loans, capital expenditures, and investments.

Current Population Survey: See Appendix C, Data Sources.

Degree-granting institutions: Postsecondary institutions that are eligible for Title IV federal financial aid programs and that grant an associate's or higher degree. For an institution to be eligible to participate in Title IV financial aid programs it must offer a program of at least 300 clock hours in length, have accreditation recognized by the U.S. Department of Education, have been in business for at least 2 years, and have signed a participation agreement with the Department.

Disposable income: Current income received by persons less their contributions for social insurance, personal tax, and nontax payments. It is the income available to persons for spending and saving. Nontax payments include passport fees, fines and penalties, donations, and tuitions and fees paid to schools and hospitals operated mainly by the government. See also *personal income*.

Doctor's degree: An earned degree carrying the title of doctor. The Doctor of Philosophy degree (Ph.D.) is the highest academic degree and requires mastery within a field of knowledge and demonstrated ability to perform scholarly research. Other doctorates are awarded for fulfilling specialized requirements in professional fields, such as education (Ed.D.), musical arts (D.M.A.), business administration (D.B.A.), and engineering (D.Eng. or D.E.S.). Many doctor's degrees in both academic and professional fields require an earned master's degree as a prerequisite. First-professional degrees, such as M.D. and D.D.S., are not included under this heading.

Educational and general expenditures: The sum of current funds expenditures on instruction, research, public service, academic support, student services, institutional support, operation and maintenance of plant, and awards from restricted and unrestricted funds.

Elementary school: A school classified as elementary by state and local practice and composed of any span of grades not above grade 8. A preschool or kindergarten school is included under this heading only if it is an integral part of an elementary school or a regularly established school system.

Elementary and secondary schools: As used in this publication, includes only regular schools, that is, schools that are part of state and local school systems and also most private elementary and secondary schools, both religiously affiliated and nonsectarian. Schools not included in this term are subcollegiate departments of institutions of higher education, American residential schools for exceptional children, federal schools for Indians, and federal schools on military posts and other federal installations.

Enrollment: The number of students registered in a given school unit at a given time, generally in the fall of a year.

Expenditures: Charges incurred, whether paid or unpaid, that are presumed to benefit the current fiscal year. For elementary and secondary schools, these include all charges for current outlays plus capital outlays and interest on school debt. For institutions of higher education, these include current outlays plus capital outlays. For government, these include charges net of recoveries and other correcting transactions other than for retirement of debt, investment in securities, or extension of credit. Government expenditures include only external transactions, such as the provision of perquisites or other payments in kind. Aggregates for groups of governments exclude intergovernmental transactions.

Expenditures per pupil: Charges incurred for a particular period of time divided by a student unit of measure, such as average daily attendance or average daily membership.

First-professional degree: A degree that signifies both completion of the academic requirements for beginning practice in a given profession and a level of professional skill beyond that normally required for a bachelor's degree. This degree is based on a program requiring at least 2 academic years of work before entrance and a total of at least 6 academic years of work to complete the degree program, including both prior required college work and the professional program itself. By NCES definition, first-professional degrees are awarded in the fields of dentistry (D.D.S. or D.M.D.), medicine (M.D.), optometry (O.D.), osteopathic medicine (D.O.), pharmacy (D.Phar.), podiatry (D.P.M.), veterinary medicine (D.V.M.), chiropractic (D.C. or D.C.M.), law (LL.B. or J.D.), and theological professions (M.Div. or M.H.L.).

First-professional enrollment: The number of students enrolled in a professional school or program that requires at least 2 years of academic college work for entrance and a total of at least 6 years for a degree. By NCES definition, first-professional enrollment includes only students in certain programs. (See *first-professional degree* for a list of programs.)

Full-time enrollment: The number of students enrolled in higher education courses with total credit load equal to at least 75 percent of the normal full-time course load.

Full-time-equivalent (FTE) enrollment: For institutions of higher education, enrollment of full-time students, plus the full-time equivalent of part-time students as reported by institutions. In the absence of an equivalent reported by an institution, the FTE enrollment is estimated by adding one-third of part-time enrollment to full-time enrollment.

Full-time worker: In educational institutions, an employee whose position requires being on the job on school days throughout the school year at least the number of hours the schools are in session; for higher education, a member of an educational institution's staff who is employed full time.

Graduate: An individual who has received formal recognition for the successful completion of a prescribed program of studies.

Graduate enrollment: The number of students who hold the bachelor's or first-professional degree, or the equivalent, and who are working toward a master's or doctor's degree. First-professional students are counted separately. These enrollment data measure those students who are registered at a particular time during the fall. At some institutions, graduate enrollment also includes students who are in postbaccalaureate classes but not in degree programs.

High school: A secondary school offering the final years of high school work necessary for graduation, usually including grades 10, 11, and 12 (in a 6-3-3 plan), or grades 9, 10, 11, and 12 (in a 6-2-4 plan).

Higher education: Study beyond secondary school at an institution that offers programs terminating in an associate, baccalaureate, or higher degree.

Higher education institutions (traditional classifications):

> **4-year institution:** An institution legally authorized to offer and offering at least a 4-year program of college-level studies wholly or principally creditable toward a bachelor's degree. A university is a postsecondary institution that typically includes one or more graduate professional schools.
>
> **2-year institution:** An institution legally authorized to offer and offering at least a 2-year program of college-level studies that terminates in an associate degree or is principally creditable toward a baccalaureate.

See also *degree-granting institutions* and *postsecondary education*.

Higher Education Price Index: A price index which measures average changes in the prices of goods and services purchased by colleges and universities through current-fund expenditures and educational and general expenditures (excluding expenditures for sponsored research and auxiliary enterprises).

Instructional staff: Full-time-equivalent number of positions, not the number of individuals occupying the positions during the school year. In local schools, it includes all public elementary and secondary (junior and senior high) day-school positions that are in the nature of teaching or the improvement of the teaching—learning situation. This includes consultants or supervisors of instruction, principals, teachers, guidance personnel, librarians, psychological personnel, and other instructional staff. This excludes administrative staff, attendance personnel, clerical personnel, and junior college staff.

Master's degree: A degree awarded for successful completion of a program generally requiring 1 or 2 years of full-time college-level study beyond the bachelor's degree. One type of master's degree, including the Master of Arts degree (M.A.) and the Master of Science degree (M.S.), is awarded in the liberal arts and sciences for advanced scholarship in a subject field or discipline and demonstrated ability to perform scholarly research. A second type of master's degree is awarded for the completion of a professionally oriented program, for example, an M.Ed. in education, an M.B.A. in business administration, an M.F.A. in fine arts, an M.M. in music, an M.S.W. in social work, or an M.P.A. in public administration. A third type of master's degree is awarded in professional fields for study beyond the first-professional degree, for example, the Master of Laws (LL.M.) and Master of Science in various medical specializations.

Part-time enrollment: The number of students enrolled in higher education courses with a total credit load of less than 75 percent of the normal full-time credit load.

Personal income: Current income received by persons from all sources minus their personal contributions for social insurance. Classified as "persons" are individuals (including owners of unincorporated firms), nonprofit institutions serving individuals, private trust funds, and private noninsured welfare funds. Personal income includes transfers (payments not resulting from current production) from government and business such as social security benefits, military pensions, and so forth, but excludes transfers among persons.

Postbaccalaureate enrollment: The number of graduate and first-professional students working toward advanced degrees and students enrolled in graduate-level classes but not enrolled in degree programs. See also *graduate enrollment* and *first-professional enrollment*.

Postsecondary education: The provision of formal instructional programs with a curriculum designed primarily for students who have completed the requirements for a high school diploma or equivalent. This includes programs of an academic, vocational, and continuing professional education purpose, and excludes avocational and adult basic education programs.

Private institution: A school or institution that is controlled by an individual or agency other than a state, a subdivision of a state, or the federal government; that is usually supported primarily by other than public funds; and the operation of whose program rests with other than publicly elected or appointed officials.

Property tax: The sum of money collected from a tax levied against the value of property.

Public school or institution: A school or institution controlled and operated by publicly elected or appointed officials and generally deriving its primary support from public funds.

Pupil-teacher ratio: The enrollment of pupils at a given period of time, divided by the full-time-equivalent number of classroom teachers serving these pupils during the same period.

Revenue receipts: Additions to assets that do not incur an obligation that must be met at some future date and do not represent exchanges of property for money. Assets must be available for expenditures.

Revenues: All funds received from external sources, net of refunds and correcting transactions. Noncash transactions such as receipt of services, commodities, or other receipts "in kind" are excluded, as are funds received from the issuance of debt, liquidation of investments, or nonroutine sale of property.

Salary: The total amount regularly paid or stipulated to be paid to an individual, before deductions, for personal services rendered while on the payroll of a business or organization.

School: A division of the school system consisting of students in one or more grades or other identifiable groups and organized to give instruction of a defined type. One school may share a building with another school or one school may be housed in several buildings.

Secondary instructional level: The general level of instruction provided for pupils in secondary schools (generally covering grades 7 through 12 or 9 through 12) and any instruction of a comparable nature and difficulty provided for adults and youth beyond the age of compulsory school attendance.

Secondary school: A school including any span of grades beginning with the next grade following an elementary or middle school (usually 7, 8, or 9) and ending with or below grade 12. Both junior high schools and senior high schools are included.

Senior high school: A secondary school offering the final years of high school work necessary for graduation.

Student: An individual for whom instruction is provided in an educational program under the jurisdiction of a school, school system, or other educational institution. No distinction is made between the terms "student" and "pupil," although "student" may refer to one receiving instruction at any level while "pupil" refers only to one attending school at the elementary or secondary level. The term "student" is used to include individuals at all instructional levels. A student may receive instruction in a school facility or in another location, such as at home or in a hospital. Instruction may be provided by direct student-teacher interaction or by some other approved medium, such as television, radio, telephone, or correspondence.

Tax base: The collective value of sales, assets, and income components against which a tax is levied.

Total expenditure per pupil in average daily attendance: Includes all expenditures allocable to per pupil costs divided by average daily attendance. These allocable expenditures include current expenditures for regular school programs, interest on school debt, and capital outlay. Beginning in 1980-81, expenditures for administration by state governments are excluded and expenditures for other programs (summer schools, community colleges, and private schools) are included.

Unclassified students: Students who are not candidates for a degree or other formal award, although they are taking higher education courses for credit in regular classes with other students.

Undergraduate students: Students registered at an institution of higher education who are working in a program leading to a baccalaureate or other formal award below the baccalaureate, such as an associate degree.

Statistical Terms

Autocorrelation: Correlation of the error terms from different observations of the same variable. Also called *serial correlation*.

Degrees of freedom: The number of free or linearly independent sample observations used in the calculation of a statistic. In a time series regression with t time period and k independent variables including a constant term, there would be t minus k degrees of freedom.

Dependent variable: A mathematical variable whose value is determined by that of one or more other variables in a function. In regression analysis, when a random variable, y, is expressed as a function of variables x_1, x_2,..., plus a stochastic term, then y is known as the "dependent variable."

Double exponential smoothing: A method that takes a single smoothed average component of demand and smoothes it a second time to allow for estimation of a trend effect.

Durbin-Watson statistic: A statistic testing the independence of errors in least squares regression against the alternative of first-order serial correlation. The statistic is a simple linear transformation of the first-order serial correlation of residuals and, although its distribution is unknown, it is tested by bounding statistics that follow R. L. Anderson's distribution.

Econometrics: The quantitative examination of economic trends and relationships using statistical techniques, and the development, examination, and refinement of those techniques.

Estimate: A numerical value obtained from a statistical sample and assigned to a population parameter. The particular value yielded by an estimator in a given set of circumstances or the rule by which such particular values are calculated.

Estimating equation: An equation involving observed quantities and an unknown that serves to estimate the latter.

Estimation: Estimation is concerned with inference about the numerical value of unknown population values from incomplete data, such as a sample. If a single figure is calculated for each unknown parameter, the process is called point estimation. If an interval is calculated within which the parameter is likely, in some sense, to lie, the process is called interval estimation.

Exogenous variable: Variables for which the values are determined outside the model but which influence the model.

Exponential smoothing: A method used in time series to smooth or to predict a series. There are various forms, but all are based on the supposition that more remote history has less importance than more recent history.

First-order serial correlation: When errors in one time period are correlated directly with errors in the ensuing time period. Also called autocorrelation.

Forecast: An estimate of the future based on rational study and analysis of available pertinent data, as opposed to subjective prediction.

Forecasting: Assessing the magnitude which a quantity will assume at some future point in time, as distinct from "estimation," which attempts to assess the magnitude of an already existent quantity.

Forecast horizon: The number of time periods into the future which are forecasted. Forecasts for next year are said to have a 1-year forecast horizon.

Function: A mathematical correspondence that assigns exactly one element of one set to each element of the same or another set. A variable that depends on and varies with another.

Functional form: A mathematical statement of the relationship among the variables in a model.

Independent variable: In regression analysis, when a random variable, y, is expressed as a function of variables x_1, x_2,..., plus a stochastic term, the x's are known as "independent variables."

160

Lag: An event occurring at time t + k (k > 0) is said to lag behind an event occurring at time t, the extent of the lag being k. An event occurring k time periods before another may be regarded as having a negative lag.

Maximum likelihood estimation: A method of estimating a parameter or parameters of a population by that value (or values) that maximizes (or maximize) the likelihood of a sample.

Mean absolute percentage error (MAPE): The average value of the absolute value of errors expressed in percentage terms.

Model: A system of postulates, data, and inferences presented as a mathematical description of a phenomenon such as an actual system or process. The actual phenomenon is represented by the model in order to explain it, to predict it, and to control it.

Ordinary least squares (OLS): The estimator that minimizes the sum of squared residuals.

Parameter: A quantity that describes a statistical population.

Projection: In relation to a time series, an estimate of future values based on a current trend.

R^2: The coefficient of determination; the square of the correlation coefficient between the dependent variable and its OLS estimate.

$\bar{R}^2$(also called the adjusted R^2): The coefficient of determination adjusted for the degrees of freedom.

Regression analysis: A statistical technique for investigating and modeling the relationship between variables.

Rho: A measure of the correlation coefficient between errors in time period t and time period t minus 1.

Serial correlation: Correlation of the error terms from different observations. Also called *autocorrelation*.

Standard error of estimate: An expression for the standard deviation of the observed values about a regression line. An estimate of the variation likely to be encountered in making predictions from the regression equation.

Time series: A set of ordered observations on a quantitative characteristic of an individual or collective phenomenon taken at different points in time. Usually the observations are successive and equally spaced in time.

Time series analysis: The branch of quantitative forecasting in which data for one variable are examined for patterns of trend, seasonality, and cycle.

Variable: A quantity that may assume any one of a set of values.

Appendix E

1999 IPEDS (Fall Enrollment) Survey Methodology

Overview

Fall 1999 enrollment data collected through the National Center for Education Statistics (NCES) represent 3,958 degree-granting postsecondary institutions that are eligible to participate in Title IV programs (financial aid) in the United States. Table E1 includes only those institutions in the 50 states and the District of Columbia. The 1999 Fall Enrollment survey (either EF1 or EF2) was sent to the universe institutions accredited at the collegiate level and to all other institutions offering a bachelor's, master's, doctor's or first-professional degree. The Fall Enrollment (EF) survey is conducted annually as part of the National Center for Education Statistics' Integrated Postsecondary Education Data System (IPEDS). Eligibility status of institutions was obtained from the Office of Postsecondary Education's 1998 Postsecondary Education Participants System (PEPS) file.

The 1999 Fall Enrollment Survey data currently available in a peer tool on the NCES web site do not permit national estimates. The peer tool includes only those institutions that reported data that passed various edit checks. To calculate national totals, data for nonresponding institutions were imputed using procedures described in this appendix and added to data reported by institutions.

Students included in the Fall Enrollment survey were students enrolled in courses toward a degree or other formal award; students enrolled in courses that are a part of a vocational or occupational program, including those enrolled in off-campus centers; and high school students taking regular college courses for credit. Students excluded from the Fall Enrollment survey were students enrolled exclusively in courses not creditable toward a formal award and not in a postsecondary vocational program, students enrolled exclusively in remedial courses; students exclusively auditing classes; students studying abroad (e.g., at a foreign university) if their enrollment at the institution is only an administrative record and the fee is only nominal; and students in any branch campus located in a foreign country; and students earning continuing units (CEU's) only.

There are two versions of the Fall Enrollment survey. The most extensive form, EF1, was sent to all 4-year institutions. The EF2 form is less detailed and was sent to 2-year postsecondary institutions that grant an associate's degree (degree-granting).

Universe, Institutions Surveyed and Response Rates

A universe of postsecondary institutions was initially established as being eligible to participate in Title IV programs by the IPEDS 1998-99 Institutional Characteristics Survey. Fall Enrollment Survey forms were mailed in July 1999. The survey results were collected from November 1999 through June 2000. During this time period, some institutions determined to be out-of-scope were deleted from the universe. These deletions resulted from formal notification by IPEDS state coordinators, the Department of Education eligibility notices, and from follow-up telephone calls. Included in the deletions were (1) duplicates of other institutions on the file; (2) institutions that no longer offered postsecondary programs; or (3) schools that did not conform to the IPEDS definition of an institution or branch. At the end of the process, 3,958 institutions were in the final 1999 fall enrollment universe. The final universe was also adjusted to reflect institutions that changed from one sector to another subsequent to survey mail out.

Table E2 shows the number of institutions that responded to the mail out of the 1999 Fall Enrollment survey by level and their enrollment. It also reports the total number of institutions in the survey universe, and the final imputed enrollment. The table shows the response rate as the proportion of the survey universe that reported to the survey both in terms of counts of institutions and in terms of their enrollment.

Survey Conduct and Editing

The 1999 Fall Enrollment survey was due November 15. Survey data were collected via paper or transmitted NCES via the Internet. Some institutions submitted data on diskette. Data for nonresponding less than 2-year institutions were collected through the Postsecondary Education Telephone System (PETS). All data, whether received on paper forms, diskettes, electronically via the Internet, or through the PETS system, went through the same editing process. Extensive follow-up for survey nonresponse was conducted from November 1999 through April 2000. Initially, reminder letters were mailed, encouraging nonresponding institutions to complete and return their forms; and subsequently, the PETS was used to collect critical data by telephone from an institutional representative.

Survey responses were edited for internal and inter-year consistency. The following editing procedures were used:

Part A: Enrollment, by Sex and Race/ethnicity

Addition checks were performed by adding down the columns and comparing generated totals with reported totals. If the reported total differed from the generated total but was within a designated range, the reported total was replaced by the generated total and the cell was flagged with the proper impute code. If the difference exceeded the designated range, institutions were contacted for verification/correction. Addition checks were also performed by generating totals for men and women by adding across columns (racial/ethnic group) in each line. Generated totals by sex were compared to the reported totals. If they differed but were within a designated range, a balance field was created containing the difference by sex and placed on the data file. Reported detail and totals were not altered. If the difference exceeded the designated range, institutions were contacted for correction. Editing of the racial/ethnic data is explained in detail in the section on raking of racial/ethnic data. Comparisons were also made with the number of students reported for the selected items for the prior year. If the differences were sufficiently large to trigger an edit flag, institutions were contacted for further verification.

Part B: Enrollment, by Age

Part B data were edited in a similar manner. Addition checks were performed by comparing reported totals in Part B to corresponding totals in Part A. Differences between the totals were calculated and balances containing the differences were generated. If the balance was outside a certain range, the institution was contacted for verification/correction. If the balance was within a certain range, the Part B total was replaced by the corresponding total from Part A. The balance was then allocated among the age categories using the institution's reported age distribution.

Data Management and Imputation

The response rate for institutions was approximately 97 percent, and these institutions accounted for more than 99 percent of enrollment. Because the response rate was so high for the enrollment data, a very straightforward process was followed for imputation. For nonreporting institutions, data from the institution's prior 1998 Part A response was used as the imputation for fall 1999. In some cases, the prior response was also an imputation. Because of the extremely high representation of the larger institutions in all major sectors of degree-granting institutions, any bias caused by this procedure was considered to be minimal.

Data for Part B was imputed by using the distribution from the 1997 enrollment by age survey, and using that age distribution for each institution to distribute their (reported or imputed) fall 1999 enrollment by age.

Raking of Data

When data were reported by racial/ethnic categories on a detail line and the generated sum of these enrollments did not equal the reported total enrollment, the difference between the generated total and the reported total was calculated. If the difference exceeded a certain designated range, the institution was contacted for correction. If the difference was within the designated range, a "balance column" was created. The balance column as well as the "race unknown" column was then distributed in the same proportions as the reported racial/ethnic data for that detail line. When the racial/ethnic numbers were adjusted to full counts, there were often lines that failed add checks because of rounding. The largest figure in each row was adjusted by one or two, so that the line added to the original reported total for that line.

163

Further information on tables E1 and E2 may be obtained from:

Thomas D. Snyder
Annual Reports Program
Early Childhood, International, and Crosscutting Studies Division (ECICSD)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Tom.Snyder@ed.gov

Table E1.—Total fall enrollment in degree-granting institutions, by level of enrollment, sex, attendance status, and type and control of institution: 1999

(In thousands)

Attendance status, and type and control of institution	Total			Undergraduate			First-professional			Graduate		
	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women
Total	14,791	6,491	8,301	12,681	5,559	7,122	303	165	138	1,807	766	1,041
Full-time	8,786	4,026	4,761	7,735	3,516	4,219	271	147	124	781	363	418
Part-time	6,005	2,465	3,540	4,946	2,044	2,903	33	19	14	1,026	403	623
Total 4-year	9,199	4,103	5,095	7,089	3,172	3,917	303	165	138	1,807	766	1,041
Full-time	6,642	3,057	3,585	5,591	2,547	3,044	271	147	124	781	363	418
Part-time	2,556	1,046	1,510	1,498	625	873	33	19	14	1,026	403	623
Total 2-year	5,593	2,387	3,205	5,593	2,387	3,205	—	—	—	•	•	•
Full-time	2,144	969	1,176	2,144	969	1,176	—	—	—	•	•	•
Part-time	3,448	1,419	2,030	3,448	1,419	2,030	—	—	—	•	•	•
Public, total	11,309	4,941	6,368	10,110	4,431	5,679	123	64	59	1,077	446	630
Full-time	6,224	2,852	3,372	5,660	2,581	3,079	117	61	56	447	210	238
Part-time	5,085	2,090	2,996	4,450	1,850	2,600	6	3	3	629	237	393
Public 4-year	5,970	2,670	3,300	4,771	2,160	2,611	123	64	59	1,076	446	630
Full-time	4,293	1,984	2,309	3,729	1,713	2,015	117	61	56	447	210	238
Part-time	1,677	686	991	1,042	446	596	6	3	3	629	237	392
Public 2-year	5,339	2,272	3,068	5,339	2,271	3,068	—	—	—	•	•	•
Full-time	1,931	868	1,063	1,931	868	1,063	—	—	—	•	•	•
Part-time	3,408	1,404	2,005	3,408	1,404	2,004	—	—	—	•	•	•
Private, total	3,482	1,549	1,932	2,571	1,128	1,443	180	101	79	730	320	411
Full-time	2,562	1,174	1,388	2,075	935	1,141	154	86	68	334	154	180
Part-time	919	375	544	496	194	302	27	15	11	397	166	231
Private 4-year	3,229	1,434	1,795	2,318	1,013	1,305	180	101	79	730	320	411
Full-time	2,349	1,073	1,276	1,862	834	1,028	154	86	68	334	154	180
Part-time	879	360	519	456	179	277	27	15	11	397	166	231
Private 2-year	253	116	137	253	116	137	—	—	—	—	—	—
Full-time	213	101	112	213	101	112	—	—	—	—	—	—
Part-time	40	15	25	40	15	25	—	—	—	—	—	—
Not-for-profit, total	3,052	1,334	1,718	2,183	932	1,251	179	101	78	690	301	388
Full-time	2,207	994	1,214	1,752	769	983	153	86	68	302	139	163
Part-time	844	340	504	431	163	267	26	15	11	388	162	226
Not-for-profit 4-year	2,989	1,308	1,682	2,120	906	1,215	179	101	78	690	301	388
Full-time	2,160	972	1,188	1,705	747	958	153	86	68	302	139	163
Part-time	829	335	494	416	158	257	26	15	11	388	162	226
Not-for-profit 2-year	62	26	36	62	26	36	—	—	—	—	—	—
Full-time	47	22	26	47	22	26	—	—	—	—	—	—
Part-time	15	5	10	15	5	10	—	—	—	—	—	—
For-profit, total	430	215	215	388	196	192	1	1	•	41	18	22
Full-time	355	180	175	323	166	157	1	•	•	31	14	17
Part-time	75	35	40	66	31	35	1	•	•	9	4	5
For-profit 4-year	239	126	113	198	107	91	1	1	•	41	18	22
Full-time	189	101	88	157	86	71	1	•	•	31	14	17
Part-time	50	25	25	41	21	20	1	•	•	9	4	5
For-profit 2-year	191	89	101	191	89	101	—	—	—	—	—	—
Full-time	166	79	87	166	79	87	—	—	—	—	—	—
Part-time	25	10	15	25	10	15	—	—	—	—	—	—

— Not available.

• Less than 500.

NOTE: Data are for 4-year and 2-year degree-granting higher education institutions that were eligible to participate in Title IV federal financial aid programs. Detail may not sum to total due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment" survey, and unpublished data. (This table was prepared March 2001.)

BEST COPY AVAILABLE

Table E2.—Response rates for degree-granting institutions from the Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment" survey: 1999

Type and control of institution	Number of institutions in final survey file	Number of institutions with reported data	Percent with reported data in final survey file	Enrollment of institutions in final survey file	Enrollment of institutions with reported data	Reported enrollment data as a percent of final inputed file
Total	3,958	3,835	96.9	14,791,224	14,682,220	99.3
Public	1,646	1,630	99.0	11,309,399	11,264,101	99.6
4-year	609	607	99.7	5,969,950	5,955,980	99.8
2-year	1,037	1,023	98.6	5,339,449	5,308,121	99.4
Private	2,312	2,205	95.4	3,481,825	3,418,119	98.2
4-year	1,690	1,628	96.3	3,228,575	3,177,539	98.4
2-year	622	577	92.8	253,250	240,580	95.0
Not-for-profit	1,638	1,580	96.5	3,051,626	3,015,631	98.8
4-year	1,494	1,443	96.6	2,989,285	2,955,028	98.9
2-year	144	137	95.1	62,341	60,603	97.2
For-profit	674	625	92.7	430,199	402,488	93.6
4-year	196	185	94.4	239,290	222,511	93.0
2-year	478	440	92.1	190,909	179,977	94.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment, 1999" survey, and unpublished data. (This table was prepared June 2001.)

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: (202) 512-1800 Fax: (202) 512-2250
Mail: Stop SSOP, Washington, DC 20402-0001

ISBN 0-16-050910-6

ISBN 0-16-050910-6
90000
9 780160 509100

167

United States
Department of Education
ED Pubs
8242–B Sandy Court
Jessup, MD 20794–1398

Official Business
Penalty for Private Use, $300

Postage and Fees Paid
U.S. Department of Education
Permit No. G–17

*****Parcel********
MEDIA MAIL